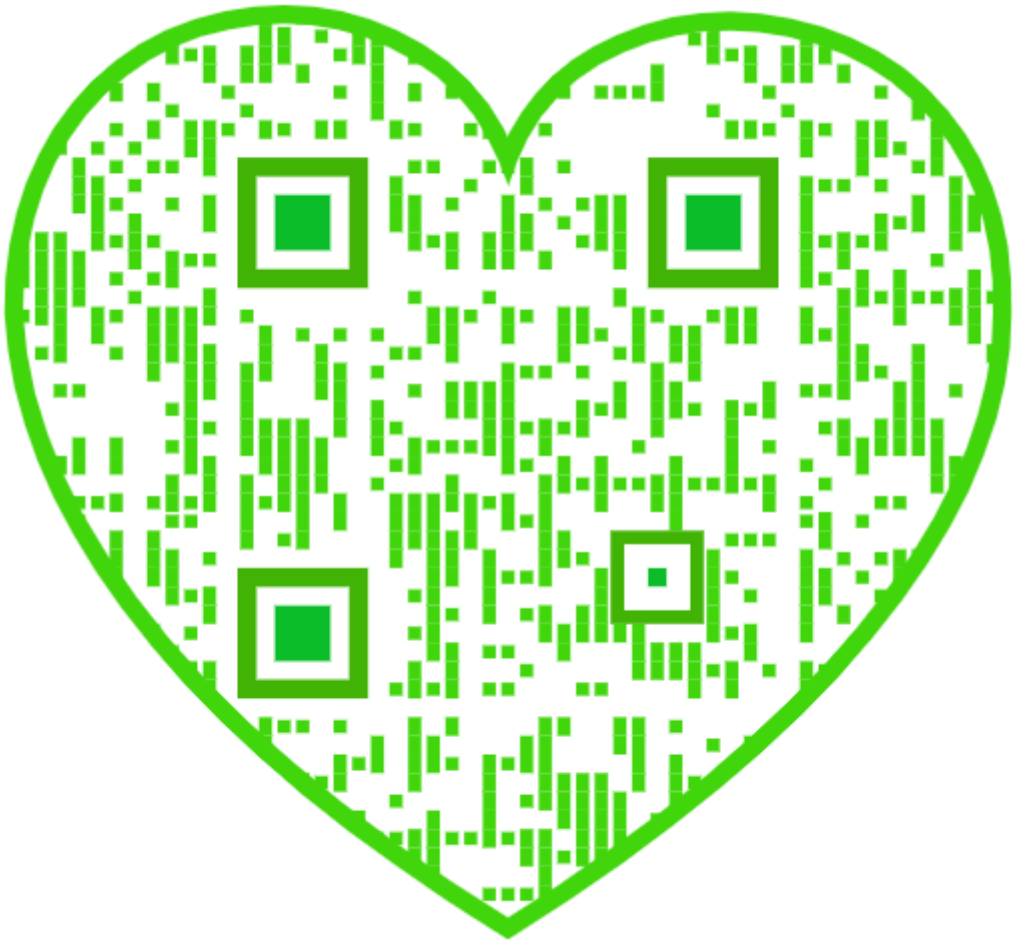

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ARCHITECT AND ENGINEER

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JANUARY 1950

How will they look to YOU a few years from now?

Your wife's eyes: What will you read in hers when she asks whether you can afford that modest cottage that's for sale?

Your boy's eyes: What will you see in his eyes the day he asks whether you can afford to send him to college?

Your own eyes: What will the mirror tell you about them when it's time to retire, and take things easier?

There's no better time than right now to sit back and think what *you* will see in your family's eyes a few years from now.

Whether they glow with happiness or turn aside with disappointment depends, to a very large extent, upon what you do *now*.

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ARCHITECT AND ENGINEER

Vol. 180 No. 1

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Planning

JOHN S. BOLLES, A.I.A.
Book Reviews

COVER PICTURE

Residence of Mr. & Mrs. Manuel S. Silva in the Orchard Homes Subdivision in Niles, California.

Living room windows of crystal sheet glass overlook the front lawn, side garden and walk leading from the street past the garage to the entrance at the side of the house.

The entire garden is enclosed by a solid redwood fence, confining the view to the garden and the hills beyond, shutting out the view of the street. (See story on page 12.)

ARCHITECT & ENGINEER is indexed regularly by ENGINEERING INDEX, INC.

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. EDITORIAL NOTES .

DAWN OF A NEW HALF CENTURY

What is the chief problem facing Americans during this mid-century year?

We have just lived through one of the most revolutionary half centuries in human history and have completed an unprecedented era in scientific and material development.

Probably the greatest issue developing in the past fifty years has been the sharpening struggle for men's minds and souls—for freedom as we know it in America, as opposed to slavery under various forms of dictatorship.

So! This is a year of decision for all Americans. We must resolve to take an active stand for democratic freedom, not just a passive acceptance that we are "good Americans." We must determine to make our free way of life work to the fullest possible extent for the benefit of all of us; to prevent an indifference to the duties of good citizenship which has allowed dictatorships and slave states to spring up in many other lands.

We must be "active citizens" every day of 1950. By voting intelligently and honestly, by assuming our obligations to work for a better community, by studying issues carefully, by avoiding group prejudice, and by constantly practicing good citizenship.

It has been suggested that 1950 be a "Year of Consecration" to our American heritage. That communities hold periods of special events emphasizing our duties as good citizens, combined with educational programs for more active citizenship.

But this all becomes a matter of individual responsibility. Communities may make varying plans. However, each one of us in his own heart must earnestly strive to be a better and more active citizen; to make this personally a "Year of Consecration" to our heritage of freedom — past, present and future.

* * *

Business has been so busy selling its products it has failed to sell itself as an institution for public service, and thereby has become so hemmed in by restrictions it cannot perform as effectively as it should in the preservation of individual freedom.

GREAT OAKS FROM SMALL ACORNS GROW

Many of the small functions of private enterprise which have been usurped by government during the past few years, in themselves are nothing to be particularly concerned with — EXCEPT, for the fact that they establish a precedent and any encroachment on private enterprise by government is usually the beginning point from which the astute and well trained politician spring-boards into activities which definitely are not a part of government under the American system of democracy.

An example, is the latest expansion of the activities of the Housing Authority of the City of Los Angeles.

Not content with engaging in the real estate, and home building business in direct competition with private enterprise (which pays a substantial amount in annual license fees and taxes to the city for the privilege of being in business in the "City of Angels"), the Housing Authority financed by money taken from the public in the form of taxes, supports a Credit Union whose boast is:

"The recently authorized payroll deductions have given the Authority's Credit Union a shot-in-the-arm. Properly accredited members are entitled to participation in the 'Buying Club', which gives discounts on purchases of merchandise.

"At this expensive time of year the Credit Union is prepared to make Christmas loans. Terms are liberal, the money is cheap, and you have twenty-four months to repay. Interest is 1% per month on loans under $300: less on larger loans. Where could you do better? So don't delay, fellers: get on the Credit Union train to financial independence."

It is true! And agreed — up to now it is the store keeper and financial institutions who are directly effected by the Credit Union, BUT, what about tomorrow when the same government leadership, encouraged by established precedent, focuses its eye on fees paid for architectural services and establishes an architectural department of government . . . then, the small acorn will have grown to a point where the oak tree becomes a definite concern to the architectural profession.

* * *

Present oppressive tax rates are an obstable to the flow of equity capital essential to maintenance of high level employment.

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NEWS AND COMMENT ON ART

COMMEMORATIVE MEDAL COMPETITION ANNOUNCED

In conjunction with the fiftieth anniversary of the establishment of the Medallic Art Company of New York, the company is offering a nation-wide competition among sculptors with awards of $1500, $750, $500 and $250.

Judging of the winning sculpture will be done by a competition jury comprising the internationally known sculptors Adolph Alexander Weinman, chairman, honorary president of the National Sculpture Society; Laura Gardin Fraser, member National Institute of Arts and Letters; Lee Lawrie, member National Commission of Fine Arts and member American Academy of Arts and Letters; Oronzio Maldarelli, head of the sculpture department Columbia University; Dean Cornwell, mural painter and illustrator; George A. Licht, Fellow American Institute of Architects; and Raymond Loewy, member British Royal Society of Arts.

INSTITUTE OF DESIGN CHANGES IDENTIFICATION

The Institute of Design, Chicago, has become the department of Design of Illinois Institute of Techonlogy, according to a recent announcement by Dr. Henry T. Heald, president of Illinois Tech.

For the present the new design department will operate at its present location, but later will be moved to the growing, modern Technology Center campus.

The Institute will continue the curricula in industrial design and visual communications, with architectural students being permitted to transfer to Illinois Tech's department of architecture.

CITY OF PARIS

The City of Paris, San Francisco, has scheduled the following exhibits and activities for the month of January:

The Eighth Annual Pacific Coast Textile exhibition showing hand woven and screen printed textiles of eighteen Pacific Coast designers. Work by Raymond Duncan of Paris, Ascher of London, and fabrics from Siam are also being shown.

The Exhibit of the Month will feature a group of ceramics by fifteen leading designers in southern California and the Bay Area.

NATIONAL SCULPTURE SOCIETY

Jacques Schnier, associate professor of sculpture design on the Berkeley campus of the University of California, recently addressed the National Sculpture Society meeting at the Architectural League in New York City.

Professor Schnier's subject was: "Academic and Professional School Training in the Creative Arts."

SAN FRANCISCO MUSEUM OF ART

The San Francisco Museum of Art, War Memorial Building at the Civic Center, will present the following exhibitions and events during the month of January:

Fifteenth Anniversary Expositions featuring a group of oils, water colors and drawings, by European artists owned in the Bay Area by Private Collections.

The Applied Arts Gallery will contain an exhibition entitled "Form" in which house model, telephone, pieces of machinery, and gowns will be shown in conjunction with modern art reproductions.

The Museum At Work section will feature newest extension "Sculpture Analysis".

A token Rental Gallery includes several works which have been sold through its Women's Board sponsored program, while the classrooms will be open for public inspection.

A series of photographs by Telberg-Von-Teleheim will be shown in the Photography Gallery, and two print exhibitions, one, 19th Century Prints from the original collection purchased at the time the Museum was established in its present location, and the other, Latin American Graphic Arts will occupy the Corridor Galleries.

Special Art Film Programs, Gallery Tours and allied activities will supplement the scheduled exhibitions.

U. C. ARTIST WINS TEXTILE ART PRIZE

Mary A. Dumas, assistant professor of decorative art at the University of California, Berkeley, was recently awarded the Decorative Art Prize by the San Francisco Women's Artists Association for her textile "With Birds".

Professor Dumas also exhibited a textile in the 1949 International Textile Exhibition, recently held at the University of North Carolina.

WURSTER APPOINTED DEAN U. C. ARCHITECTURAL SCHOOL

William Wilson Wurster, one of the nation's outstanding architects, has been appointed dean of the School of Architecture on the Berkeley Campus of the University of California.

Dean Wurster has been serving as dean of the School of Architecture and Planning at the Massachusetts Institute of Technology.

PORTLAND ART MUSEUM

Five new year's exhibitions will feature the start of the 1950 sesaon with emphasis on Textiles from the Rasmussen Collection; The Exact Instant in Photography; Paintings by Jack McLarty; Egypt (from Life magazine); and Recent Accessions to the Museum's Print Cabinet.

The size and diversity of the Rasmussen Collection of Northwest Coast Indian Art is of such extent that this particular exhibition is a collection of objects interpreting one phase of native Northwest Indian culture and is limited to textiles and wearing apparel. The collection includes protective robes of woven cedar-bark and conical spruce-root basketry hats. A winter-long series of ceremonies known as the Winter Dance influenced the Indians clothing as certain costumes were required for various rituals and position of wealth.

Such traditions produced the unique garment called the "Chilkat blanket" a tapestry-woven cape of prescribed shape and design. These were woven by the women of the Tlingit group, using mountain goat wool dyed with vegetable and mineral dies in blue-green, yellow, and black. The warp, of wool-wrapped cedar-bark, was left to form a long, heavy fringe which made the garment especially effective during the movement of the dance. Chilkat blankets were coveted by chiefs and nobles, all along the coast, and were a valuable article in trade.

The designs, adapted from animal forms, had important heraldic significance. These were copied by the women weavers from pattern board painted for them by the men, since women never created animal designs.

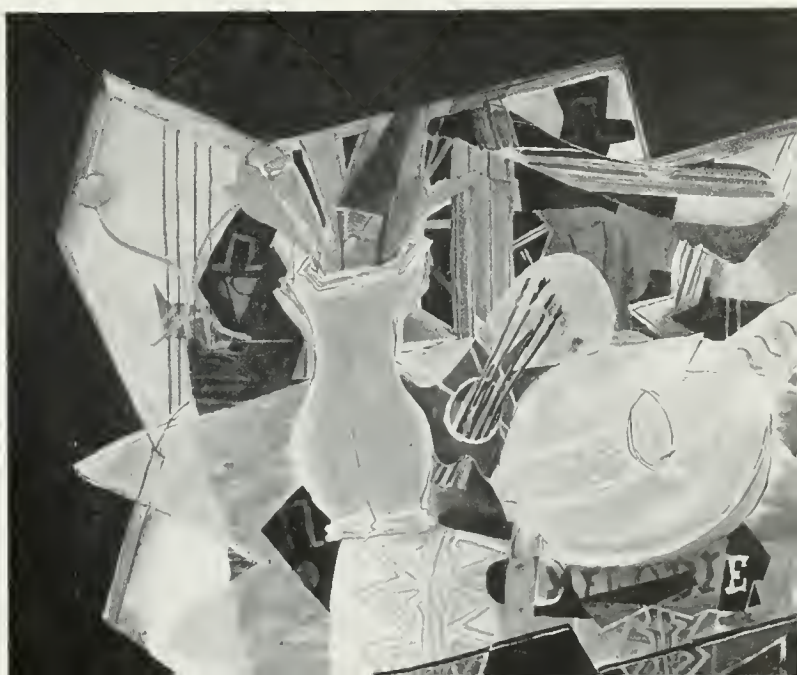
Special tours of the Museum are being conducted in order that the public may get a better understanding of the activities.

THE MILLS COLLEGE ART GALLERY

The Mills College Art Gallery, Oakland, has scheduled a group of exhibitions for January and February including:

A retrospective group of sculptures by Sygmund Sazevich; Sculptural drawings by contemporary and recent Sculptors, and a photographic exposition of sculptural processes demonstrated by William Zorach, whose work appears in Life magazine.

ON EXHIBIT . . . San Francisco Museum of Art



VASE, PALETTE, MANDOLIN
oil (32 x 38 inches)

by GEORGES BRAQUE

This painting by the great French contemporary Georges Braque, completed in 1936, will be shown among the Permanent and Loan Collections exhibitions in January. It was given to the Museum in 1944 by Mr. W. W. Crocker.

The Effective Use of Basements in the Design of Rigid Buildings of Moderate Height On Compressible Foundations

By WILLIAM H. JERVIS*
Civil Engineer

Recently in the foundation design for a local building which had widely varying column loads, it was found that unless special provisions were taken, excessive differential settlement would occur. This building was on an excellent foundation. However, the foundation soil was slightly too compressible to withstand the differential loading which it was planned to apply. This computed differential settlement was reduced materially by excavation of a partial basement under the building. Since this process aroused considerable discussion at the time that it was used, it was thought that it might be of interest to this group.

BASIC IDEA

The basic idea behind this technique makes full use of the shape of the normal pressure void ratio curve for a soil. Fig. 1 (b) shows typical pressure void ratio curves plotted on a semilogarithmic plot. The semilogarithmic plot is usually used for convenience in this type of work because it makes it easier to select the preconsolidation load. However, if one is not too familiar with what the curve shows, the semilogarithmic type of plot tends to create a false impression of the nature of the data. On Fig. I (a) the same data as shown on Fig. I (b) are converted to an arithmetic scale. This plot gives a clearer picture of what is happening as the soil specimen is loaded. At the start of the test the curve is quite flat to about ¾ tons per sq. ft. loading. At this point there is a slight break and the curve starts downward more rapidly. This break in the curve represents the preconsolidation load of the material, the part above the break being rebound from previous loading, and the part below being virgin compression of the soil. This particular curve shows data up to 3 tons per sq. ft. with the theoretical virgin compression curve above ¾ tons per sq. ft. indicated by a dashed line. Notice that on the semilogarithmic plot higher loading appears to cause more rapid deformation per unit increase in load, while on the arithmetic plot, it is shown that this is not the case. Actually the rate of consolidation becomes slower with increased loading.

Now let us consider what occurs beneath a group of footings. Fig 2 has been prepared to demonstrate this. It is the stress distribution under a group of three footings in a line, a condition which would not usually be encountered under a building, but one which is simple and demonstrates the point which is to be made. Actually the distribution of stress under a larger group of footings such as would exist under a building is similar, but the variations which occur are larger.

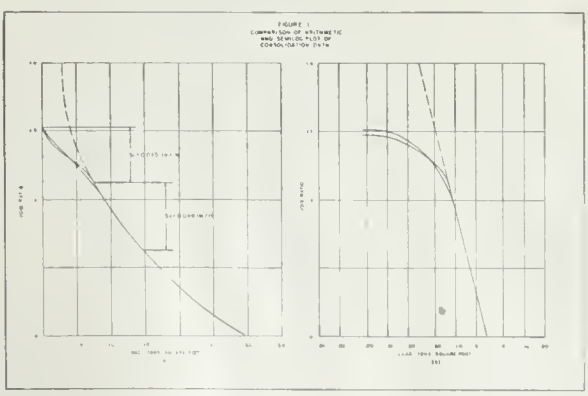


Figure 1
Comparison of arithmetic and semilog plot of consolidation data.

SYSTEM OF LOADS

Under the system of loads, which are based on circular areas, there are two types of distribution, one near the bottom of the footings and one at a

(See Page 43)

*EDITOR'S NOTE: *This subject was presented by William H. Jervis, civil engineer of the firm of O. J. Porter & Company, consulting engineers of Sacramento, California, before members of the Structural Engineers Association of California at the recent annual meeting of the group in Yosemite Valley.*

California Business
1949 Review and Outlook

By JAMES E. SHELTON, President
California State Chamber of Commerce*

In California as over the nation as a whole, the first eight months of 1949 can be characterized as a period of moderate deflation and recession, continuing a trend which began in August of 1948 and continued for about twelve months. Although there were certain exceptions, most of our basic production industries encountered during this period of transition from a seller's market to a buyer's market, the effects of inventory curtailment, surpluses, weak markets, greater competition, and constant downward pressure on prices. At the same time certain operating costs, such as wages and various fixed charges, remained high, and some other costs, such as the rates charged by regulated public utility services and railroads, showed a belated rise As a result profit margins in many lines of industry and business were narrowed and in some cases eliminated.

By September of 1949 it became apparent that a major portion of this deflationary readjustment had been completed, at least for the time being. Prices levelled off or became firmer and buying to replace overly depleted inventories was resumed. Both business men and consumers apparently came to the conclusion that no drastic downward spiral in prices or demand was imminent, and resumed the buying of goods, the construction of homes, and other purchases which might otherwise have been postponed in the anticipation of lower prices. As a result, the past four months have shown a moderate upward trend in retail trade, an upturn in some lines of manufacturing which previously had been curtailing employment and output, a rise in bank loans, a strengthening of real estate markets, and a rise in residential building permits. The upturn in building and real estate activity, however, is traceable in some measure to action taken by the Federal Government to stimulate the making of G. I. 100% loans.

*EDITOR'S NOTE: *Mr. James E. Shelton, in addition to serving as president of the California State Chamber of Commerce, is one of the outstanding financial authorities in the nation and is president of the Security-First National Bank in Los Angeles.*

BUSINESS TREND NORMAL

While the major trends of business activity in California have followed the national pattern fairly closely in the postwar period, there are some differences which deserve comment. California's specialty fruit and vegetable crops experienced a major readjustment to weakened markets and sharp price drops two years earlier than the staple field crops and livestock products which make up the bulk of the national farm economy. Its important motion picture industry also has gone through an earlier readjustment to loss of foreign markets and a reduced domestic market. Due to our rapid population increase and acute housing shortages, residential and related private construction activities in California rose more promptly and to a much higher peak than in the remainder of the nation, reaching its highest volume in 1948. The past year by contrast has shown a relative decrease in private building, while the national totals were still rising. The effect of these earlier readjustments in California upon incomes and trade are reflected in some of these measures for 1948 as compared to 1947, when the national totals showed a sharper gain than those for this state, and again in 1949, when employment and other measures of mining, construction and trade showed less favorable trends than for the country as a whole.

On the other hand, after a relatively sharper drop in the winter months, last year, overall business activity as reflected by employment in California, levelled off or turned upward in the Spring and Summer of 1949 to a point where comparisons with the same months of the previous year showed a more favorable situation in this State than over the remainder of the nation. These more favorable trends were evident in manufacturing, public utilities, finance, and service activities, as well as in total civilian employment.

FARMER INCOME GOOD

Gross cash income of California farmers during 1949 probably dropped slightly below the two billion dollar level for the first time since 1945. In 1948 cash farm income was $2,177,699,000 according to the U. S. Department of Agriculture. The prelimi-

nary estimate of this authority is that national gross farm income during 1949 was 10 per cent below 1948, and that farmers realized net income dropped 16 per cent From such local records as are now available it appears that California's gross farm income probably decreased by nearly the same percentage during the calendar year, but that the decrease in net income was not so sharp as the indicated 16 per cent for the nation. On the contrary the decrease in California's net income may have been smaller in percentage than the gross, due in part to the earlier readjustments in this state, and in part to the early harvest and sale of a record-breaking cotton crop, plus a relative improvement over last year in the markets for grapes and their products. However, many fresh deciduous fruit and vegetable growers have suffered from weak markets and low price returns, affecting pears, peaches, tomatoes, celery, and during part of the year, lettuce as well as several other important cash crops. Lower price returns for livestock and products have been somewhat offset by increased quantities sold, with relatively stable returns from poultry and dairy products. As to the outlook for 1950, about all that can be said at this time is that agricultural economists of the U. S. Department of Agriculture expect the average of farm product prices to decline by about 10 per cent over the next year. California has in prospect a good citrus crop of better than usual quality which should bring fair returns. On the debit side so far as cash farm income is concerned is a prospective reduction of one-third in cotton acreage and the likelihood that substitute crops of equal value will not be found.

LUMBER INDUSTRY

California lumber production during 1948 was 3,962,910 M feet board measure or 16.3 per cent larger than during 1947. Of this, 1,458,120 M feet was Ponderosa pine, 925,440 M feet was Douglas fir, 793,250 M was Redwood, and the remainder white and red fir, sugar pine and other species. During 1949 redwood lumber production about equalled the previous year, and the production of other mills including newly expanded plywood mills, was slightly larger with an overall increase of about 2 per cent in employment in basic lumber products. Price returns to west coast lumber producers averaged about $65 per 1,000 feet as compared to $78 during 1948, but lumber markets strengthened during the last half of the year, and price trends were upward in response to increased construction demands. The outlook is for more stabilized conditions in the lumber industry during the coming years.

Crude petroleum production from California oil fields was curtailed during the last half of the year, and total production for 1949 was about 333,000,000 barrels or 2 per cent below the previous year. Employment and production in metal mining, quarrying, and other mines was on the whole smaller than during 1948, although toward the end of the year there was an upturn in mineral products for the construction industry.

EMPLOYMENT

Employment in California manufacturing industries averaged approximately 714,000 during 1949, or 2.3 per cent less than the peak year of 1948, and a much smaller decrease than for the remainder of the nation. Industries which materially curtailed production and employment during 1949 as compared to 1948, included the shipbuilding, machinery, iron and steel, non-ferrous metals, and stone, clay and glass industries. Those which operated at higher levels than a year ago included aircraft and automobile assembly, apparel, textiles, and lumber. A majority of the remaining industries were slightly below last year. Those which showed an upward trend during the last quarter of 1949, were apparel, paper, chemical, rubber, furniture, electrical machinery, and automobile and aircraft assembly. Since there was some increase both in average hourly earnings and average weekly earnings of factory workers, it is not likely that manufacturing wages and salaries during 1949 showed any material change from the previous year's total of $2,459,100,000. During the first nine months of 1949 there were 707 new plant or factory expansion projects started or announced in the major industrial areas of the state, involving capital expenditure of $120,000,000. The number of such projects showed a decrease of 7 per cent, and capital investment was 11 per cent lower. Important new chemical, food products, lumber, and other new plants were started, the largest of which was a $25,000,000 soap and food products plant in the Los Angeles area. The total dollar volume of new construction activity in California during 1949 was approximately $2,250,000,000 according to preliminary estimates, or about 10 per cent below the high levels of 1948, when the figure was $2,492,400,000 or 14 per cent of the nation's total, according to U. S. Department of Commerce estimates. Private residential building which jumped 52 per cent from 1947 to a total of $1,450,700,000 in 1948, or more than 20 per cent of the nation's total, showed a drop of 20 per cent or more during 1949 from the extraordinary peaks of the previous year in contrast to national trends. Commercial and industrial construction, other than public utility, declined about 16 per cent from the 1948 levels of $440,400,000. However, during the last four months of 1949, new private construction as reflected by building permits in urban areas rose to levels substantially above the same period of 1948 and showed a contra-seasonal uptrend in

residential and other private building. New public construction showed an increase of approximately 40 per cent above last year's dollar volume of $373,100,000 with a much larger increase in such projects as sewers, water supplies, schools and other public buildings. The reported outlook both nationally and within the state is for an equal or larger volume of public construction projects during 1950.

Civilian employment in California during 1949 averaged about 4,041,000, or 1 per cent less than during the previous peak year of the postwar boom, reflecting somewhat more favorable employment conditions than the trend over the nation as a whole. Unemployment rose to a seasonal peak of 531,000 in March and declined to a seasonal low of 318,000 in October, but the ratio of unemployed to total labor force remained substantially higher than the national average, a situation which is largely attributed to the continued inmigration of new residents. Total wage and salary incomes were equal to or possibly slightly larger than the 1948 totals of $11,082,000,000. Total individual income, according to preliminary indications, was down about 1 per cent from the 1948 totals of $17,099,000,000 as reported in the state income payment estimates of the U. S. Department of Commerce. Reductions were mainly in the net profits of farmers and other business enterprises in those lines most affected by the deflationary readjustments of the past year, such as the metal trades, and some categories of retail trade and services. Population of the state on July 1, 1949 was 10,665,000 according to provisional estimates of the U. S. Bureau of the Census, indicating a net migration of 171,000 into California during the previcus 12 months, plus a natural increase of some 143,000 due to the continued high birth rate.

RETAIL SALES

The volume of retail sales in California, for which only fragmentary data are now available for 1949, probably did not drop more than 2 or 3 per cent below the 1948 total of $11,697,000,000, which after allowance for retail price changes, indicates a somewhat larger physical volume of trade than during the previous year.

Liquid assets including savings of individuals and firms have remained at levels close to $18 billion in California or nearly four times the prewar totals. These liquid assets, together with continued relatively high levels of income, have provided a powerful underlying support for the economy of this state during the transitional period of the last year. With the upturn of business trends which has occurred during recent months, and the more optimistic views evidenced by buyers and investors, there is no reason to anticipate any material decline in business volume during the coming year.

INCREASED HOME CONSTRUCTION COSTS MAY RESULT FROM FEDERAL HOUSING PROGRAM

Rodney M. Lockwood, President National Association of Home Builders

Despite the clamor from the federal government for lower costs in home building, it looks like 1950 will be the year when the cost of houses may go up again because of the government's interference in the housing business.

Home building came out of 1949 at a jet-propelled speed. It is headed toward new records in 1950. But with supplies of materials and labor already strained, builders are confronted with the spectre of the government dumping construction of an additional $1½ billion worth of socialized housing on the already tight market.

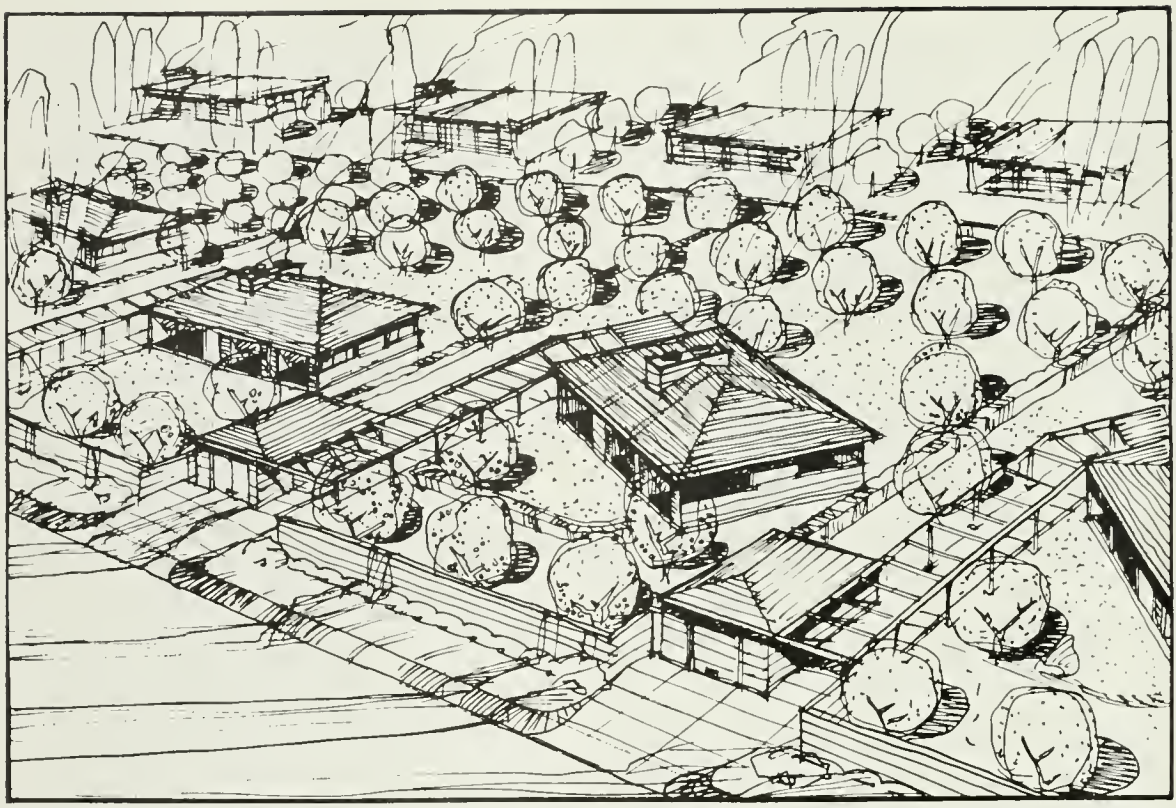
Obviously, there can be only one result—competitive bidding for the available supply of labor and materials and inflation in housing prices. It looks almost certain that demand for goods and services in this sector of the economy is going to outrun supply.

If that spells anything but inflation, I would like to know what it is.

It is doubly unfortunate, since builders in 1949 produced more lower-cost homes than ever before. Left alone, they would have put up even more lower-cost housing in 1950. Now, at the very moment when they were about to go even further into the lower-price market, it looks as though the government planners are going to make it difficult to do so.

If the government would stay off the market, 1950 would almost automatically be another all-time high year for home building. All conditions except that of the socialized housing threat are good. The mortgage finance outlook appears to be favorable. Building production, both in factories and on construction sites, is geared up to a high rate. The market is absorbing all that we can produce—as fast as it is built.

The pressure for higher wage rates, plus the inflationary effect of the socialized housing program, however, is bound to push prices up. How much longer builders can hold the price line by better efficiency is problematical. Certainly, at the moment, the outlook appears to be for higher prices along with high production.



View shows the relation of "hip roofed" houses to "flat tops"—no two houses are exactly alike, being varied in exterior treatment, color and fenestration. Orientation has been decided upon by sunlight requirement rother than the usual street frontage consideration.

ORCHARD HOMES

RESIDENTIAL COMMUNITY

Niles, California

HERBERT T. JOHNSON. Architect

DAN BODILY. Developer

This project, adjacent to the metropolitan Oakland area and located in the town of Niles in southern Alameda county, again proves that a wise builder and an experienced architect can cooperate to successfully produce practical and more salable homes, at a most reasonable cost.

The builder-architect combination in the field of home construction has been a very successful venture in the great Southwest, the Pacific Northwest and on the East coast for quite some time, and now it is showing excellent results in the San Francisco Bay Area.

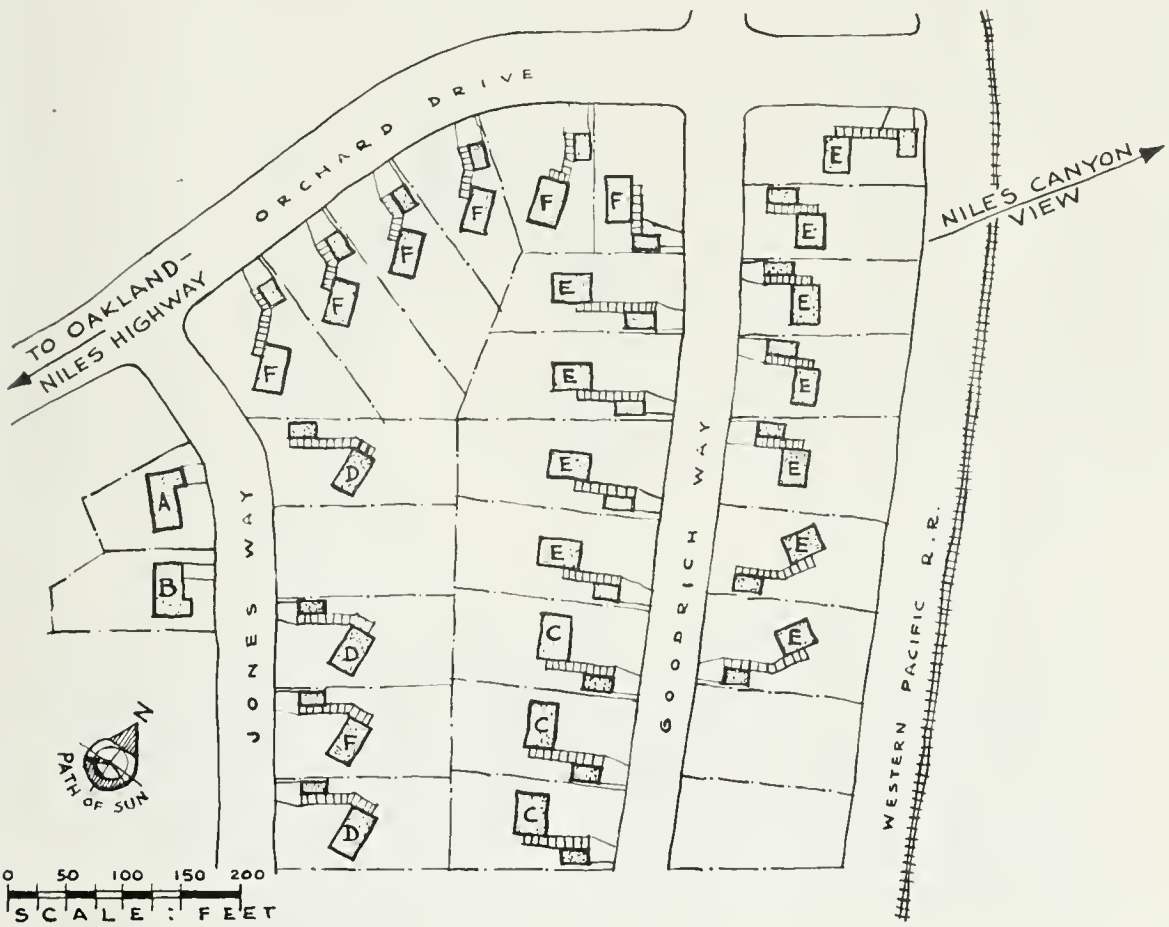
To the question of why, are houses of this type of subdivision purchased as fast as they are built; while in numerous other subdivisions there may be seen many "For Sale" signs on newly constructed homes in spite of the housing shortage?

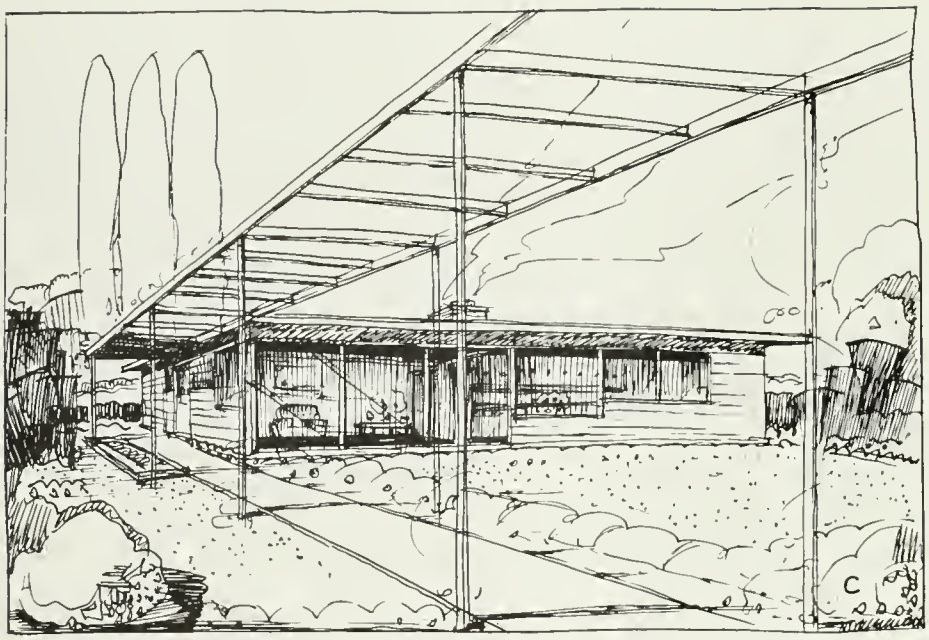
The answer is obvious—the one group answer a real need, giving much that is wanted in present-day living without resorting to high costs or worn out ideas; while the other developments are outmoded before they are completed.

During the last World War many a weary G. I. dreamed of a little home where he could live in

PLOT PLAN

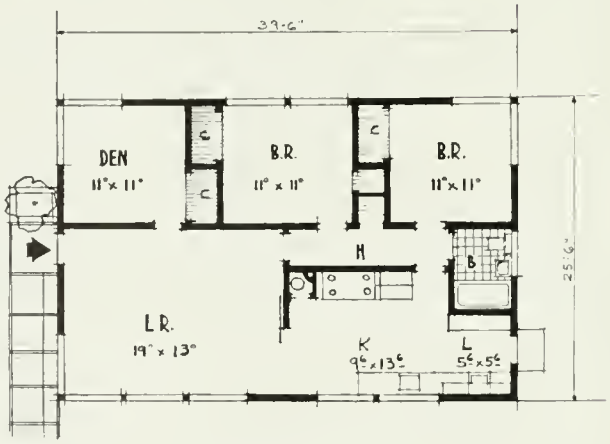
1. **Homes are laid out to give canyon view from each living room and sunshine in all rooms.**
2. **Orchard and garden walls give shelter and privacy to homes and patios.**
3. **Types A, C and D are three bedroom homes. Types B, E and F are two bedroom homes.**
4. **Layouts, materials and colors are varied so that no two houses look exactly alike.**
5. **Each garage provides space for one car and storage.**





THREE BEDROOM HOME

PLAN "C" is a three bedroom home with a "flat roof" of two-inch tongue and groove plank on beams 5 ft., 0 in., on center forms ceiling. Tar and gravel built up roof is laid over 1 in. of fiberboard insulation.

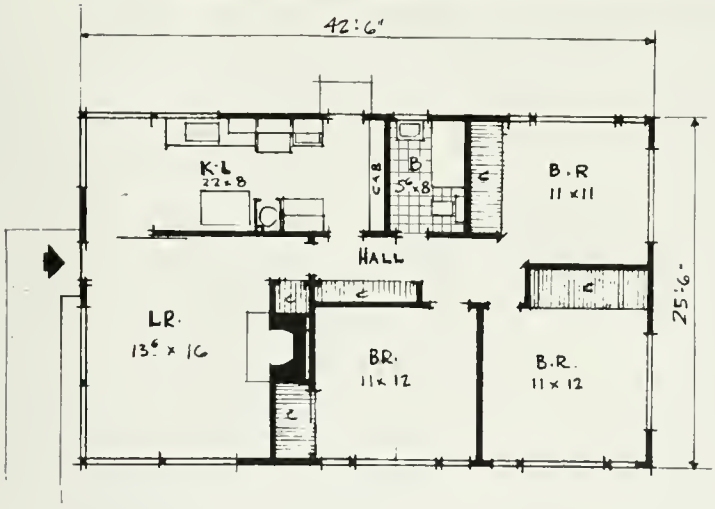


PLAN - C -
AREA : 1007 SQ.FT

privacy with his family; where he had room to breath and stretch his arms out without hitting the house next door; where he could dig-up a bit of the "good-earth" and plant some vegetables, or roses. He longed for a place where his children could play in safety without the danger of being run down in the street by a passing automobile or bus; where the "little woman" could work and live without too much backache and heartache; where there would always be plenty of fresh air and sunshine and a space in the back yard to roast weenies over a bonfire or prepare a barbecue. He dreamed of getting away from the "city" upon his return from military service; to go to some smaller town where people are really neighbors and every individual is considered a part of the community instead of "just one of the herd."

High prices, however, have kept many a G. I. from buying a home and realizing any of his dreams. Some, it is true, were forced to buy any

FRONT GARDEN — note louvered vent alongside large fixed glass bedroom windows and also in living room.



PLAN - D-

AREA: 1083 SqFt

FLOOR PLAN
TYPE "D" HOUSE

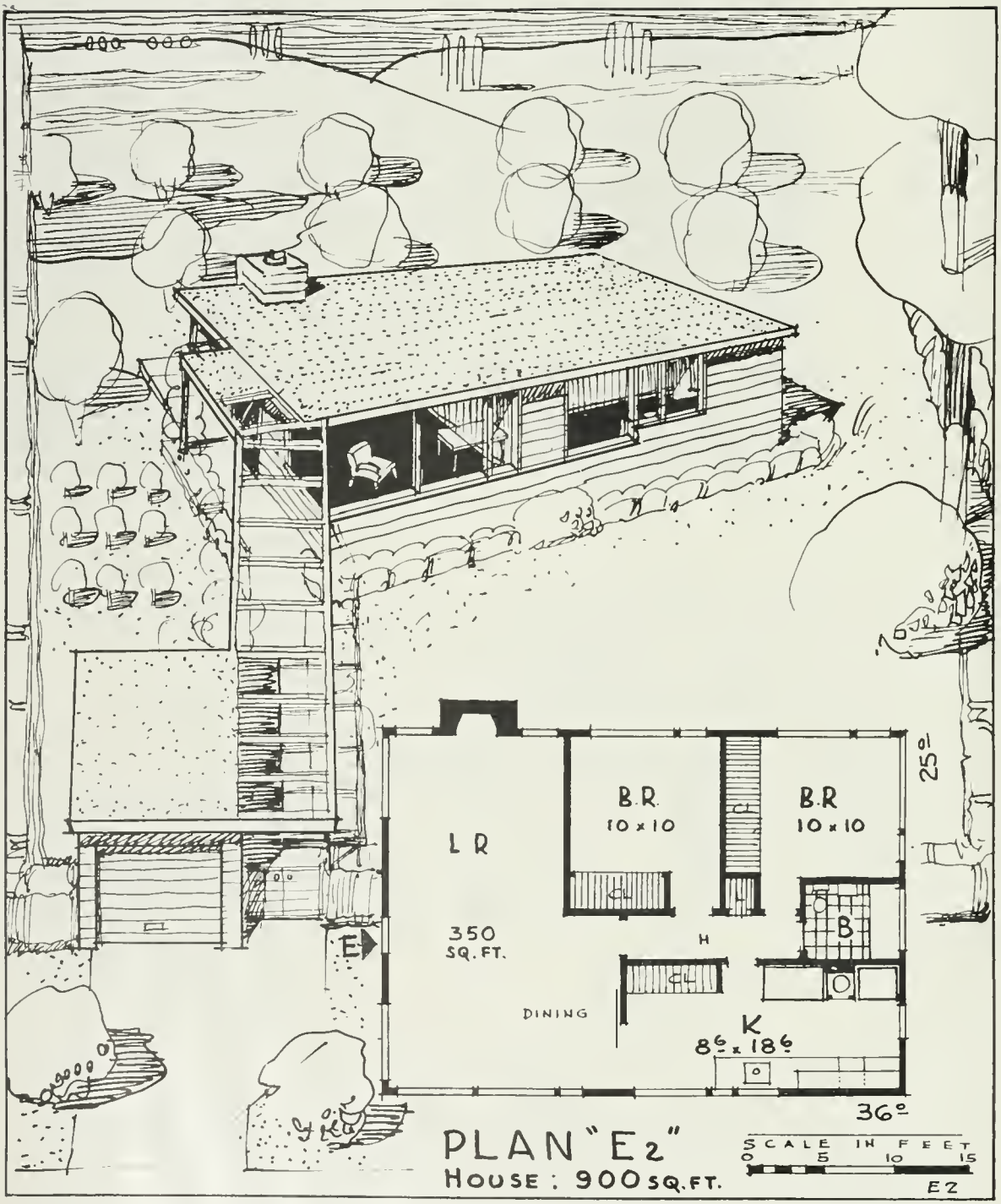
Features of the home include sliding door between kitchen and living room; large closets; gas wall furnace; hot water heater enclosed in kitchen cabinet, and built-in automatic clothes washer.

kind of a house just to have shelter. Others doubled up with relatives or friends, sharing high expenses until such time as they could scrimp and save enough money to buy, or at least make the down payment, on that "solar dream house" they had been hoping for. So, for many the prospects on the whole were, and in many instances still are, quite discouraging for home ownership. Many developments in surburban areas have been built with houses pretty much the same as they have always been—crowded on small lots with little or no thought for healthful and desired outdoor living. Perhaps these houses have a tile bath and a large window in the living room that overlooks a busy highway; but, on the whole they are just the same old thing at a higher price.

What is the answer to all this?

NEW HOUSING APPROACH

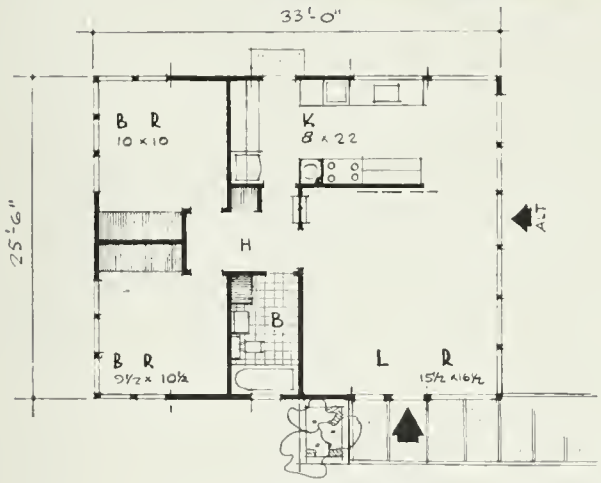
A few enlightened developers have started on the right track towards a logical solution. They have been far sighted enough to build something a bit different, a bit better, and something even a



Another interesting and popular home of the "flat roof" type is the PLAN "E-2," which is a two-bedroom, with living room and kitchen and contains some 900 sq. ft. of space. A garage is also provided.

SIDE GARDEN

As viewed from the spacious living room windows.



PLAN - E1

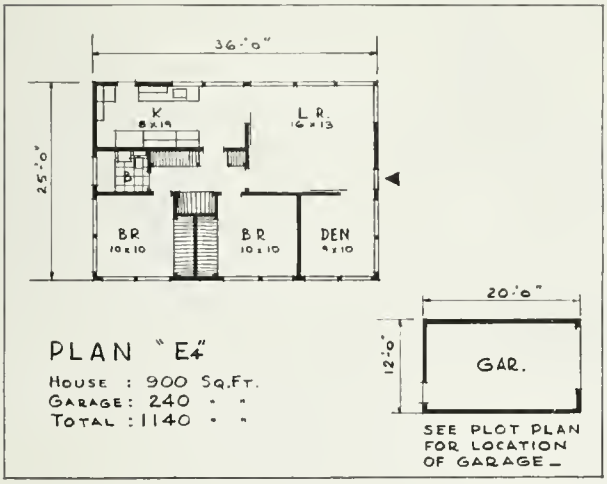
AREA : 840 SQ.FT.

VARIATIONS IN PLAN "E"

Plan "E-1" offers bedrooms at end of house with hall connecting bathroom and kitchen-living room areas.

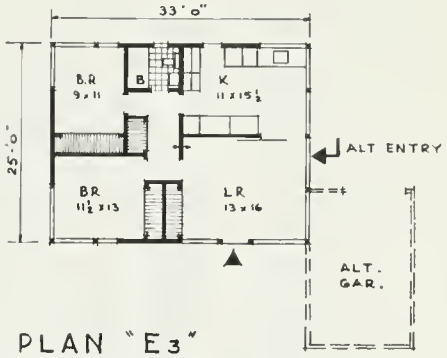
Plan "E-4" places bedrooms alongside, adds a small den, and relocates kitchen and living room.

Plan "E-3" offers a rearrangement of bathroom, bedroom facilties and an alternate "attached" garage.



PLAN "E4"

HOUSE : 900 SQ.FT.
GARAGE: 240 " "
TOTAL :1140 " "



PLAN "E3"

HOUSE : 825 SQ.FT.
GARAGE : 280 " "
TOTAL 1105 " "

bit less expensive than the usual small house. Without exception these progressive developers have, as far as we know, availed themselves of competent architects to assist in planning not only the houses which are to be constructed, but also to plan the entire subdivision layout.

One of such developers is Dan Bodily of Niles, California, a small unincorporated town located about midway between the cities of Oakland and San Jose. Deciding that his town should be just that type of place that many young couples would like to live in and raise a family, he started the development of a residential tract on a piece of relatively flat ground in an old orchard near the main highway, but off of the heavy thoroughfares and surrounded by rolling hills, a locale which gives the area a feeling of home-quiet seclusion, and yet actually sandwiched in between two great metropolitan areas of San Francisco Bay.

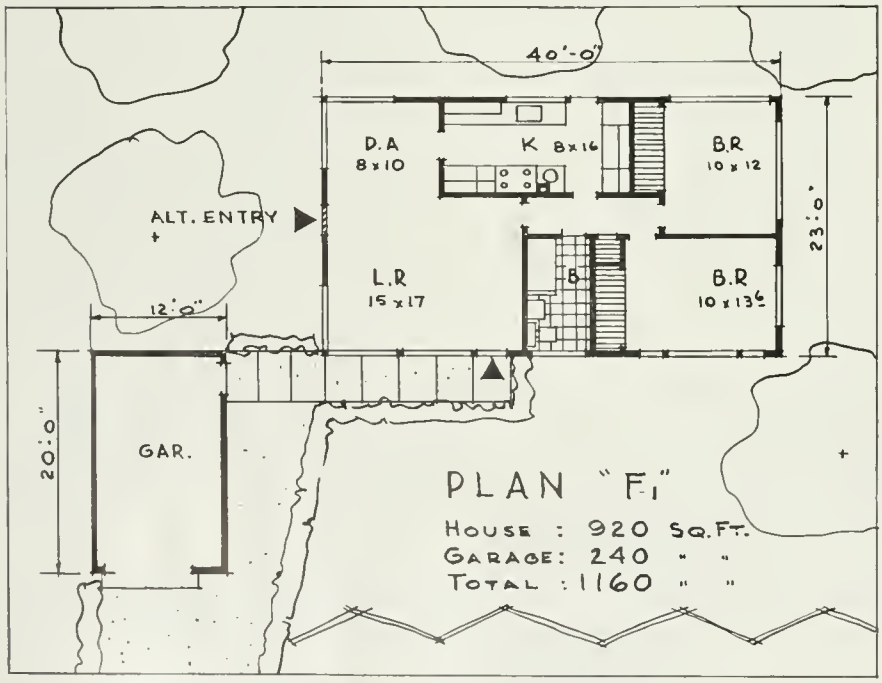
Following selection of the home building-community development site, Bodily selected Herbert T. Johnson of Oakland, as his architect. Getting their heads together, the two concluded that with a little ingenuity and careful planning they could build the home that the G. I. Joe had long been dreaming about—or a reasonable facsimile thereof—and still keep the total cost within the reach of his pocketbook.

GENERAL LAYOUT

To begin with, the subdivision was divided into thirty lots of approximately eighty feet wide by one hundred fifty feet deep. Houses were oriented in relation to the sun rather than the street frontage. This combined with the gently curving streets, gives a pleasing variation to the overall picture. The difference between individual houses is carried out further by changes in the treatment of materials, colors, fences and roofs.

On the other-hand, for economic reasons mainly, a certain degree of unilormity has been maintained throughout the project by aligning garages and front fences, and by the use of hipped roofs for all houses on one street while those on the adjoining street all have flat roofs.

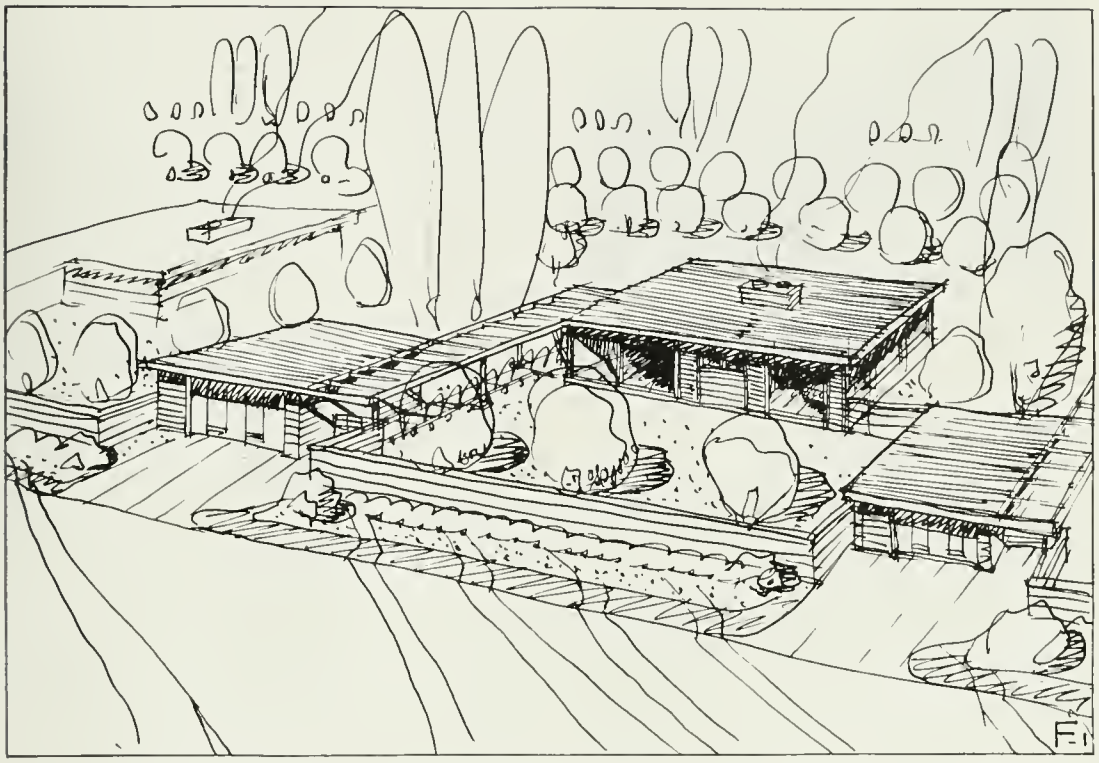
Many of the orchard trees were old and had to be removed. All of the younger and healthy trees not interfering with construction have been preserved. Each house in the subdivision has unusual privacy through the use of enclosed patio gardens. This has made possible the use of glazed walls



PLAN "F-1"

See perspective on opposite page.

Two bedrooms, living room, dining alcove and kitchen—with detached garage.

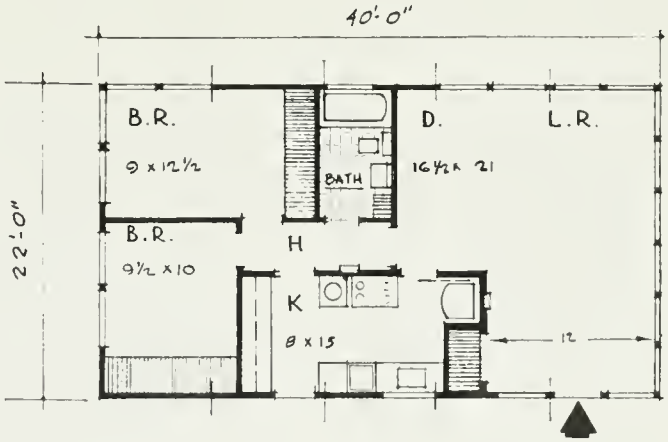


FLAT ROOF TYPE "F-1" . . . Fences an street and between houses pravide privacy ta each individual hame. The fences are varied in treatment ta avaid manatany and ta add ta the attractiveness af each residence. Landscaping is also planned ta canfarm ta the individual style af hame, lacatian af garage, walks, driveway, and streets.

OPTIONAL

PLAN "F-2"

Combines dining and living raam area, alsa rearrangement af the kitchen and ather facilities.



PLAN - "F 2"

AREA: 880 SQ. FT.

REAR VIEW of typical "Type D" home showing location of walk, garage, and landscaping.

overlooking the gardens without the owners feeling that they were living in the proverbial "gold fish bowl."

TYPES OF HOUSES

Standardization of construction methods rather than standardization of individual plans was decided upon, with the result that half a dozen different house plans are being used. The plans are somewhat similar in detail but considerably varied in actual layout in order to meet the requirements of various individuals. Certain features, however, are found in all of the homes. With the exception of the first two built, all homes have a detached garage which is connected to the house by a trellis covered walk. This arrangement breaks up the box-like appearance of the overall simple rectangular plans that were chosen as the most economical solution to the problem. The homes have two, or three bedrooms, a living room, kitchen and bath. Separate showers and individual dining space was considered a luxury that could be foregone. Consequently showers are placed over the tubs and dining space is located in the kitchens or living rooms.

All kitchens are equipped with built-in automatic clothes washers, thus providing ample laundry space without sacrificing any utility area. The hot water heater is enclosed in a cabinet next to the range.

Kitchens are separated from living rooms by the use of a sliding glazed door. Since all kitchens have an additional door leading to the hall, the sliding door can be left closed without interfering with air circulation when meals are being prepared or when dishes are left on the table. The glazing of the door being obscure, the view of the kitchen can be cut off without cutting out any of the light coming from the large windows in the living room.

Large wardrobe type closets are used throughout, with additional storage space provided for in the end of each garage.

The extra cost of the wood trellis, supported by steel pipe columns in the yard, has been fully warranted, for the added charm of such an arrangement has proved appealing to the home owner and has been a good selling point.

Since the houses are comparatively small, a carefully selected gas fired wall heater with thermostatic control, has proven sufficient to keep the house temperature at a comfortable level in stormy weather in spite of the large glass area.

CONSTRUCTION

A modular post and beam system is used for walls, with earthquake bracing being supplied in the interior partitions which thus allows for the freeing-up of exterior walls for larger openings.

Flat roofs built of two inch tongue-and-groove planking spiked to exposed beams bearing on substantial posts have proved to be more economical than the hipped roofs with conventional ceilings. Flat roofs are finally covered with tar and gravel over built-up roofing with fiberboard insulation laid over the planking.

The smaller windows are of wood with rollers sliding on weather-stripping. The larger windows consist of crystal sheet glass placed in stops flanked by louvered panels inside.

Interiors are finished with recessed edge taped gypsum board. Exteriors are finished with rustic siding or stucco on wood sheathing.

The construction program, started last year, calls for three stages of ten units each. The first stage has been completed and the remaining two units are to be built during this year.

THE ARCHITECT

Herbert T. Johnson, is currently President of the East Bay Association of Architects; has consistently been designing homes, factories and commercial buildings of clean cut design with emphasis on ample fenestration and simple construction ever since he opened his architectural offices in Oakland.

Johnson has lived in the San Francisco Bay Area all of his life, receiving his architectural training through the San Francisco Architectural Club Atelier of the Beaux Arts Institute of Design, Edward Frick and Earnest Weihle, patrons.

While serving on the design staff of the U. S. Farm Security Administration, Johnson was responsible for the development of many plans of low cost farm dwellings, and was the author of a booklet entitled "Farm Building Plans" published by the F. S. A. Prior to that he worked with Irving L. Morrow, Bridge Architect, on the design of the Toll Plaza of the Golden Gate Bridge.

At present Johnson is developing plans for several apartments in the Bay Area; a residence in Los Angeles; and a West Coast restaurant chain.

COST AND SALES

The two bedroom flat roofed houses range in sales price from $7,500 to $8,000, while those with the hipped roofs are selling from $9,750 to $10,750.

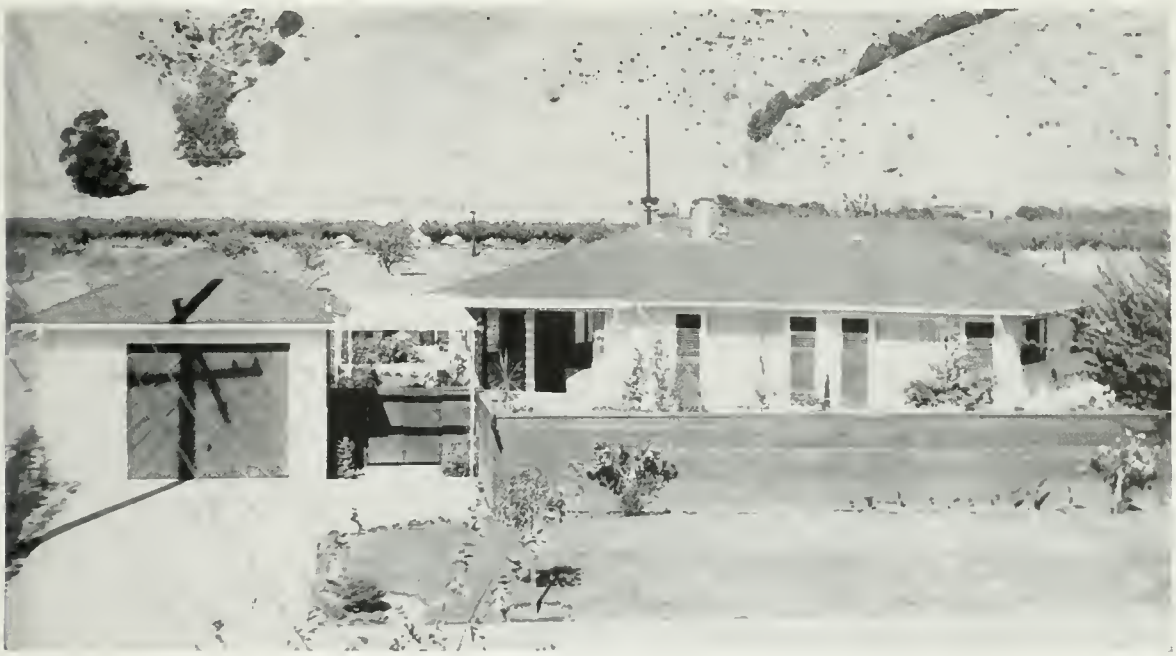
The three bedroom houses in this subdivision are priced at $9,000 to $10,000 for the flat roofed type and $10,000 to $11,000 for the hipped roof types. The higher priced houses are somewhat larger and have several additional features such as fireplace, etc.

It was early determined that sales are much easier to make after the construction is completed, therefore few houses have been sold from plans. A recent group of completed homes were sold quickly by inserting a weekend advertisement in one of the Oakland daily newspapers. The advertisement included an illustration of the architect's sketch of a typical plan together with a carefully prepared perspective. About a hundred prospects answered the advertisement, and all available homes were immediately sold.

CONCLUSION

From this example of carefully prepared planning and developing of a subdivision, it appears quite obvious that both the developer and the architect can profit through mutual cooperation; that it pays to really analyze the housing market, then meet the local home demand by using selected ideas that are unusual for subdivisions at the present time; but, ideas that really give a client a home that will not be obsolete in the near future. Some developers may take the short sighted viewpoint that they can make big profits by squeezing surburban houses on small lots and thereby provide shelter, but without due regard for providing better living. Those who take the long range viewpoint of being satisfied with smaller immediate profits and in giving more for a client's money at present, will probably go on selling homes when the other type of operators will be faced with the problem of disposing of the buildings remaining on their hands. (Plans, photographs and material on the Orchard Homes Subdivision, copyrighted 1950 by Herbert T. Johnson.)

ORCHARD HOMES in Alameda county, near Oakland, California, represent one of the West Coast's typical Community Home development projects. Each home, while a part of an overall plan, has individuality.



TEAMSTERS
JOINT COUNCIL BUILDING
Portland, Oregon

AREA
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COST
$10.00 SQUARE FOOT

MORGAN H. HARTFORD
Architect, A. I. A.

DONALD H. KROEKER
Consulting Engineer

WAALE-CAMPLAN CO.
Contractors

The Teamster Joint Council Building provides offices and meeting rooms for all of the General Teamster Unions of Portland, Oregon. General Teamsters Unions are affiliated with the American Federation of Labor.

The Teamster Joint Council Building was designed by Morgan H. Hartford, A.I.A. architect of Portland, Oregon. Hartford studied architecture at the University of Oregon and is a registered architect in Oregon, Washington and California, and also holds the national certificate for practice of architecture as granted by the National Architectural Registration Board. He is a member of the American Institute of Architects.

Hartford was commissioned by the Teamster Building Association to design and prepare plans for the proposed new Teamster Joint Council Building in January, 1948. Preliminary architectural studies were completed last February and final blue prints and specifications were issued to contractors for bidding in April. Bids were received May, 1948. Construction contract was awarded to Waale-Camplan Company. Construction commenced June 1, 1948 and was completed in July, 1949.

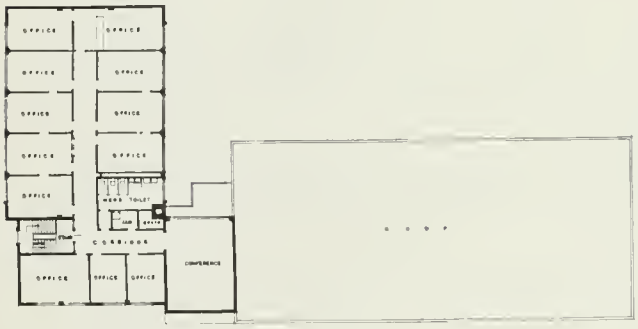
The Teamster Joint Council Building is of modern architectural design. Exterior walls are reinforced concrete. Steel girders and pipe columns support floors and partitions of frame construction. Wood trusses support the assembly roof. Concrete floors are of both flat slab and concrete joist types. High quality aluminum doors, windows, railings,

MAIN ENTRANCE

Ribbon type aluminum letters and sculptured bas-relief emblem of the Teamsters' is set on background of vertical corrugated concrete.

Unique Pylon stands at corner near entranceway.

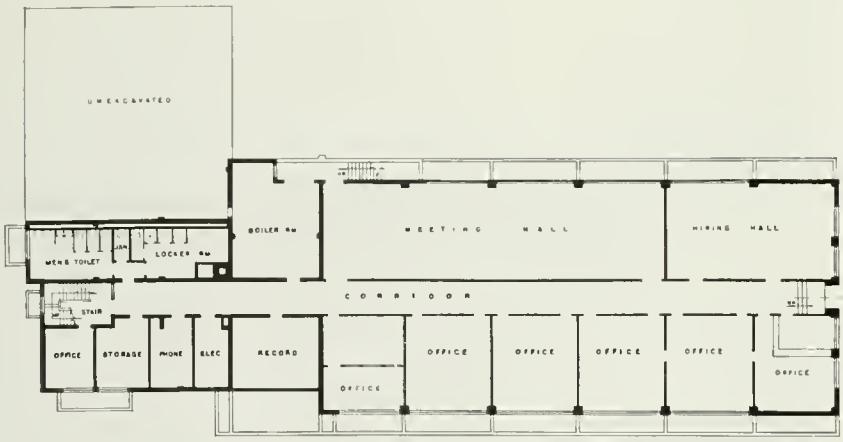
TEAMSTERS COUNCIL BUILDING . . . .



UPPER FLOOR PLAN

SECOND FLOOR:

Has been arranged to provide facilities for offices of participating Union locals.



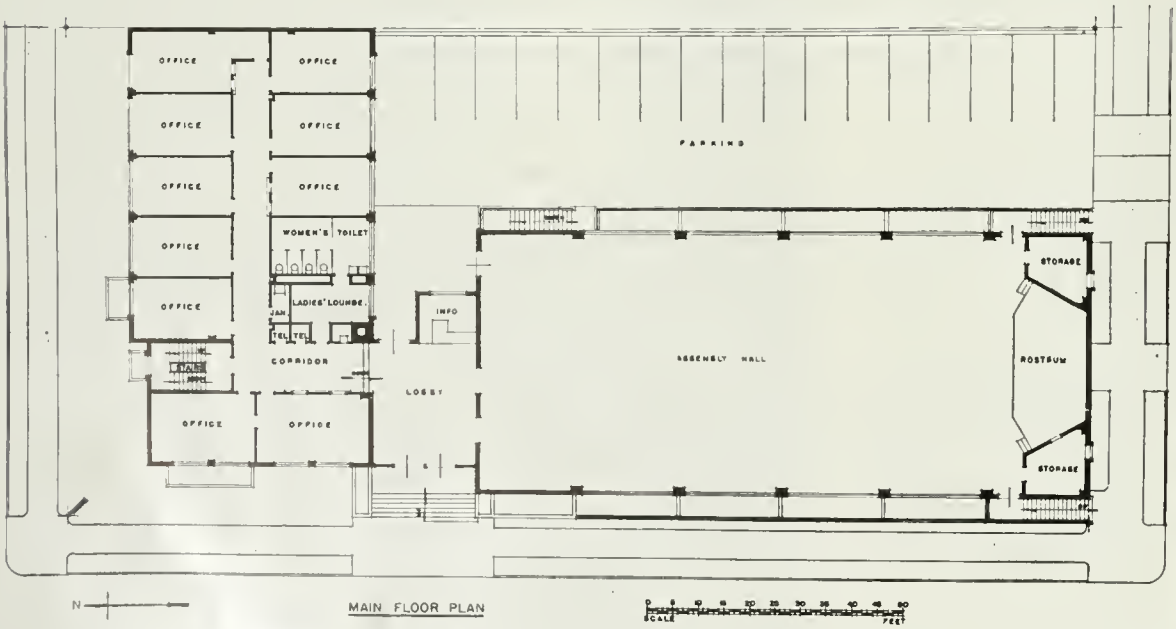
LOWER FLOOR PLAN

LOWER FLOOR:

The lower floor has offices, meeting hall and storage and utility space.

MAIN FLOOR:

In addition to business offices space is provided for general assembly hall and stage.



MAIN FLOOR PLAN

. . . . TEAMSTERS COUNCIL BUILDING

LOWER FLOOR meets street level at one end of the building. Entrance to meeting hall and offices have direct street entrance. Exit stairway from Assembly Hall also leads to this street level.

MAIN LOBBY provides ample space for receptianist, with intercammunicating telephane system. Daar at right enters the Assembly Hall.

BELOW: The building at night farms an attractive part of the surraunding area, with ample lighting of pylan and entrance.

CORRIDOR—Teamsters Joint Council

hardware and sign letters have been installed to assure low maintenance cost.

The dominant architectural interest of the structure is its dignified main entrance which features a background of vertical corrugated concrete upon which are set ribbon type aluminum letters and a precast, hand sculptured base relief emblem of the teamsters'. The panel weighs about one ton and was cast of especially fine concrete aggregates after modeling in clay. The entrance panel is bordered with a reinforced concrete marquee at the bottom, and an aluminum canopy at the top, and is flanked on the sides by the assembly and general office wings. At night, the entrance panel is illuminated by lights recessed in the aluminum canopy and in the concrete flower boxes flanking entrance steps.

A concrete pylon supports a neon illuminated giant size teamster emblem. The pylon is set diagonally to give the sign the greatest possible visibility at night. A floodlighted paved parking lot provides off street parking. It is bordered with a retaining wall of native stone.

Public circulation centers in the main lobby accessible directly from street and parking lot levels. From the lobby, a system of broad corridors and stairways leads to offices located on three levels. The main assembly is entered directly from the lobby. The assembly is provided with two entrances and three additional exits and can be cleared in a few moments. Additionally, there are general meeting facilities on the lower floor and a large conference room on the upper floor.

A completely fireproof boiler room is located on the lower floor in central position with telephone, electrical apparatus and record storage rooms nearby for central control. Janitors' maintenance depots are located on each level for convenience in keeping the building clean. Ample public toilet facilities and drinking fountains are provided on each floor level.

OFFICE INTERIOR

Typical office shows large windows for natural day-lighting and fluorescent for night.

Ceilings are soundproofed.

Asphalt tile floors.

The square patterned architectural concrete walls of the lobby and conference rooms relate the exterior and interior of the building in the modern manner. The main stairway is lighted by a full two story high glass block window.

Ceilings of corridors, offices and meeting rooms are covered with sound-proofing material sprayed with fire retardent paint. The acoustic material has remarkable quality of sound absorption. Walls are of plaster, floors are asphalt tile, assembly floor is maple, toilet and corridor wall wainscoting is a new durable type wall covering.

Special effort was made in selection of paint colors to achieve pleasant combinations with the standard colors of the various building materials employed.

Both fluorescent and incandescent lighting are used. Heating system is oil fired hot water. Mechanical ventilation is provided for meeting and assembly rooms.

Technical assistance rendered the architect by his assistants contributed greatly to the successful planning and quality construction of this project. Messers. Geo. Pettingell and Grant Kelly, electrical engineers, designed the electrical system. Donald Kroeker, consultant engineer, designed the mechanical system composed of plumbing, heating and ventilating system. The building has an area of about 25,000 square feet. Construction cost was close to $10.00 per square foot.

ENGINEERS REPORT CALIFORNIA SLOWLY SINKING INTO OCEAN

A 12-square mile area bordering the Los Angeles-Long Beach harbor is sinking two inches every month, and since 1937 the subsidence "has reached the astonishing total of more than nine feet", Commander Lewis C. Coxe, Public Works Officer of the Long Beach Naval Shipyard recently told members of the American Society of Civil Engineers at the annual meeting in Washington, D.C.

Removal of oil and gas from the Wilmington Oil Field is blamed for the subsidence.

NATIONAL SURVEY MADE OF ARCHITECTURAL EDUCATION

A national survey of architectural education, internship and registration has been started as a major project of the A.I.A. under the chairmanship of Dr. Edwin S. Burdell, director of the Cooper Union, New York.

Objective is an appraisal of the problems and responsibilities of the American Institute of Architects in the fields of professional education and license to practice, including existing educational patterns, training procedures, registration requirements and many related subjects.

It is estimated the survey will require at least a year to complete.

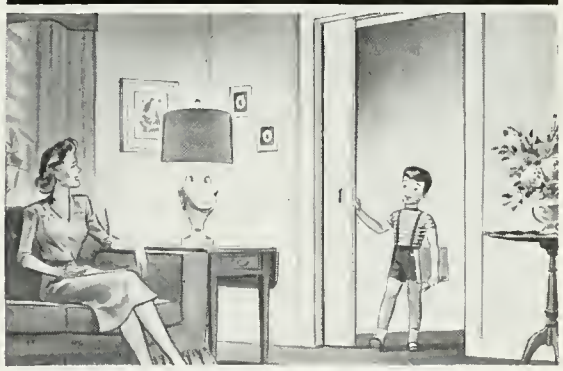
Members of the commission include: B. Kenneth Johnstone, Pittsburgh, Pa.; Turpin C. Bannister, Urbana, Ill.; Sidney W. Little, Eugene, Oregon (representing the schools). Ernest J. Kump, San Francisco, Calif.; Walter H. Kilham, Jr., New York City; and Walter T. Rolfe, Houston, Texas (representing the architects). Clinton H. Cowgill, Blacksburg, Va.; George B. Cummings, Binghampton, N. Y.; and Fred L. Markham, Provo, Utah (representing the registration boards), and Roy C. Jones of Minneapolis representing the National Architectural Accrediting Board.

VII CONGRESS OF PAN-AMERICAN ARCHITECTS

The Executive Committee of the Seventh Congress of Pan-American Architects have announced that the dates of the Congress of 1950 have been set for April 10 to 16, in La Habana, Republic of Cuba.

Architectural exhibition will also be held on the same dates, and indications are that quite a number of works representing West Coast architects will be displayed.

PLANNING COMPACTNESS AND CONVENIENCE ?



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A. I. A. ACTIVITIES

American Institute of Architects

Arizona Chapter:
Edward L. Varney, President; Ralph B. Haver, Secretary, 35 W. Oregon Street, Phoenix, Arizona.

Central Valley of California:
Frank V. Mayo, President; John W. Bamberger, Vice-president; Ivan C. Satterlee, Treasurer; William Koblik, Secretary, 2203 13th St., Sacramento, California.

Central Coast Counties Chapter:
Birge M. Clark, President; Lisle Fred Richards, Secretary-Treasurer; Thomas E. Elston, Jr., Chester Root and Henry Morgan Stedman, Directors. Office, 411 Lafayette Street, San Jose.

Colorado Chapter:
Henry J. Von Wyl, President; Charles H. Overholt, Secretary, 2509 W. 36th Avenue, Denver, Colorado.

East Bay Chapter:
James H. Anderson, President; Lay Chamberlain, Vice-President; William Corlett, Secretary; Chester Treichel, Treasurer. Office c/o Sec., Bank of America Bldg., Oakland.

Montana Chapter:
Orr Pickering, President; H. C. Cheever, Secretary, Montana State College, Bozeman, Montana.

Nevada State Board of Architects:
L. A. Ferris, President, Reno; Walter Zick, Secretary, Las Vegas; Directors, Aloysius MacDonald, Las Vegas; Russell Mills and Edward Oarsons, Reno. Office, P. O. Box 2107, Las Vegas, Nevada.

Northern California Chapter:
Donald Beach Kirby, President; W. Roland Gibbs, Secretary. Office 369 Pine Street, San Francisco 4.

Oregon Chapter:
Irving G. Smith, President; Holman J. Barnes, Vice-President; Albert W. Hilgers, Secretary; and Millard H. Schmeer, Jr., Treasurer. Office, 909 Spaulding Building, Portland 4, Oregon.

Pasadena Chapter (California)
Robert H. Ainsworth, President; John N. Douglas, Vice-President; William Ainley, Treasurer, and Burton Romberger, Secretary. Harold J. Bissner, Roland E. Coate, and Edwin Westberg, Directors. Offices 1041 E. Green Street, Pasadena 1.

San Diego Chapter:
C. J. Paderewski, President; Walter C. See, Vice-President; Robert Bradt, Treasurer; George Hatch, Secretary, San Diego Trust & Savings Bank Building, San Diego 1.

San Joaquin Chapter: (California)
Fred L. Swartz, President, Fresno; Lloyd J. Fletcher, Vice President, Visalia; Walter Wagner, Secretary, Fresno; Robert W. Stevens, Treasurer, Fresno. Directors: Alastair Simpson, William D. Coats, William F. Baxter. Maurice J. Metz, Delegate California Council of Architects. Office, Sec. Fulton-Fresno Bldg.

Santa Barbara Chapter (California):
Henry W. Howell, President; Wallace Wm. Arendt, Secretary, 236 La Arcada Bldg., Santa Barbara, California.

CALIFORNIA COUNCIL OF ARCHITECTS
Andrew T. Hass, President; Adrian Wilson, Vice-President; Malcolm Reynolds, Secretary-Treasurer: Office 369 Pine Street, San Francisco.

Southern California Chapter:
John Rex, President; John J. Landon, Vice-president; Burnett C. Turner, Secretary; Jack C. Lipman, Treasurer. Chapter Headquarters, 3757 Wilshire Blvd., Los Angeles 5.

Spokane Chapter:
Richard Eddy, President; Victor L. Wulff, Secretary; Carl Johnson, Treasurer. Office 1023 W. Riverside Avenue, Spokane 8.

Utah Chapter:
Howell Q. Cannon, President; William J. Monroe, Jr., Secretary, 3707 South 32nd West Street, Salt Lake City 7, Utah.

Washington State Chapter:
Waldo B. Christenson, President; Perry B. Johanson, 1st Vice-President; Charles T. Pearson, 2nd Vice-President; John M. Morse, Treasurer; and Bliss Moore, Jr., Secretary. Offices 714 American Building, Seattle 4, Washington.

Tacoma Society:
E. N. Dugan, President; P. G. Ball, Vice-President; Lyle Swedberg, Secretary-Treasurer.

Hawaii Chapter:
James C. Simms, President; Alfred Preis, Secretary, 1507 Kapiolani Blvd., Honolulu, T. H.

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NEW CHAPTER OF THE A.I.A. FOR SAN JOAQUIN VALLEY

At a recent meeting of architects practicing in the southern area of the San Joaquin Valley, a new chapter of the American Institute of Architects was formed. The official name of this chapter is the San Joaquin Chapter of California of the American Institute of Architects and the area designated for its members includes all architects in Fresno, Tulare, Kings, Merced and Madera counties.

Many of the members formerly belonged to the Central Valley Chapter of the American Institute of Architects and had to travel to Sacramento or Stockton, where most of the Central Valley Chapter meetings were held. This condition, together with the increasing number of architects in the Fresno area were the prime considerations in forming the new chapter. The chapter was officially granted and the by-laws approved by the National A.I.A. headquarters in Washington, D. C. and announcement of the new chapter formation was made at the recent state convention of the California Council of Architects at Palm Springs.

There are 25 corporate members, and the following officers were elected at the last meeting: Fred L. Swartz, Fresno, president; Lloyd J. Fletcher, Visalia, vice president; Walter Wagner, Fresno, secretary; Robert W. Stevens, Fresno, treasurer.

Directors elected were Alastair Simpson, William D. Coates and William F. Baxter, all of Fresno. Mr. Maurice J. Metz was elected as delegate to California Council of Architects, who, with the president, act as the chapter representatives at quarterly meetings of the council. The council is composed of two representatives from each chapter, and is where A.I.A. policy at state level is formulated.

The new chapter of the American Institute of Architects is anxious to assume its responsibility in civic affairs and will welcome any opportunity to be of any assistance possible.

NORTHERN CALIFORNIA CHAPTER

Paul Oppermann, Director of the San Francisco Department of City Planning was the principal speaker at the December meeting, taking as his subject the future development of San Francisco and the many complex problems which present themselves in providing for the future growth of a city which has already extended its area development possiiblities.

Provision for re-development and better utilization of numerous areas within the city, together with cooperative planning of adjacent areas is being undertaken as a part of the city's future development.

* * *

Members of the Chapter were guests of the P. G. & E. at a luncheon and conducted tour of the Company's new 360,000 HP steam electric generating plant, Station "P", located on Hunters Point, San Francisco, on December 12th. The plant is but one of several new installations being completed by the P. G. & E. to better serve the San Francisco-Oakland Bay Area with electric energy.

* * *

Reports from members attending the California Council meeting at Palm Springs, indicate the Council followed its pre-convention announcement and devoted four days to many problems facing the architectural profession.

RECEIVES GOLD MEDAL AWARD OF THE A.I.A.

Sir Patrick Abercrombie, M. A. Fellow of the Royal Institute of British Architects, and internationally known British architect and town planner, will be awarded the Gold Medal of the American Institute of Architects at the 82nd A.I.A. Convention in Washington, D. C., May 10-13, 1950.

In making the announcement Ralph Walker, New York, President of the A.I.A. said that Sir Patrick was selected to receive the Gold Medal by unanimous vote of the Board of Directors at its November meeting.

The "award to Sir Patrick Abercrombie was

(See Page 38)

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Structural Engineers Association of Northern California

Arthur W. Anderson, President; John E. Rinne, Vice President; Franklin P. Ulrich, Treasurer; Geo. E. Solnar, Jr., Secretary. Howard C. Schirmer, Walter L. Dickey, Geo. A. Sedgwick, Harold O. Sjoberg and Jesse Rosenwald, directors.

American Society of C. E.
San Francisco Section

A. W. Earl, President; G. B. Woodruff, Vice President; C. T. Wiskocil, Vice President; R. D. Dewell, Secretary-Treasurer. Secretary's Office, 604 Mission Street, San Francisco.

Structural Engineers Association of Southern California

E. C. Hillman, Jr., President; Donald F. Shugart, Vice President; Robert J. Short, Secretary-Treasurer. Directors: Charles M. Herd, John Minasian, Harry Bolin, John Case and Lewis Osborne. Office, 202 Architects Bldg., Los Angeles 13.

Puget Sound Engineering Council (Washington)

R. E. Kister, A. I. E. E., Chairman; E. R. McMillan, A. S. C. E., Vice Chairman; L. B. Cooper, A. S. M. E., Secretary; A. E. Nickerson, I. E. S., Treasurer. Offices, L. B. Cooper, c/o University of Washington, Seattle 5, Washington.

STRUCTURAL ENGINEERS ASSOCIATION OF OREGON IS FORMED

At their regular bi-monthly meeting on December 7th in Portland, the newly organized Structural Engineers Association of Oregon adopted an interim constitution pending the preparation of their permanent constitution and by-laws.

The interim constitution adopted at the meeting contained the following statement of purpose: "To form an association of structural engineers to the end that the needs of the public, the membership, and the profession shall be protected; and to promote fellowship and understanding between engineers."

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Committees are engaged in various studies including: Professional ethics and fee standardization; the preparation of a permanent constitution and by-laws; and the study of existing building codes to determine revisions necessary to protect the public interest in new construction and existing structures from seismic activity (earthquakes). The results of this study will be the basis of a report and recommendations to city, county and state officials on the building codes revision necessary to provide a suitable degree of safety from seismic shocks in new and existing structures.

It was also voted to limit the membership during the interim period to the following members: Robert M. Bonney, Theodore J. Chamberlain, Miles K. Cooper, W. J. Dorner, Lewis R. Ellingwood, Roger V. Gillam, James R. Griffith, George A. Guins, Norman W. Haner, Francis E. Honey, Arthur M. James, R. Evan Kennedy, Sidney P. Lathrop, Jerome A. McDevitt, James G. Pierson, Leslie E. Poole, Rowland S. Rose, Sully A. Ross, Carl R. Skooglund, Guy H. Taylor, Loren H. Thompson, Robert L. Tidball.

APPOINTED DEPUTY CHIEF OF ENGINEERS

Brig. Gen. John S. Bragdon has been designated Deputy Chief of Engineers, Department of the Army, according to a recent announcement by Major General Lewis A. Pick, Chief of Engineers.

Gen. Bragdon will be succeeded in the Military Construction Division by Brig. Gen. George J. Nold, who has been Division Engineer of the North Atlantic Division, New York, since August 1948.

STRUCTURAL ENGINEERS OF SOUTHERN CALIFORNIA ELECT NEW OFFICERS

The Structural Engineers Association of Southern California started its twenty-first year of organization with Ernest Hillman at its helm as president. Elected at the last meeting of 1949 by a unanimous vote of the large group in attendance, Hillman took the gavel from Harry Bolin, past president. After graciously acknowledging his elec-

tion, Hillman complimented Bolin's regime as one of the most active and productive periods in the twenty years of the association's existence.

Ernest Hillman is a partner in the firm of Hillman and Nowell, consulting structural engineers, Los Angeles. He was born in Los Angeles, educated at Hollywood High School, and later at Cal-Tech. Following receipt of his Bachelor of Science degree in 1930 he worked for a short time with the old Los Angeles Gas and Electric Corporation, but soon joined the architectural firm of Marsh, Smith and Powell, for several years being the firm's structural engineer. At the beginning of the war he joined with Lawrence Nowell, to design many Army and Navy projects in the military program of the United States.

ERNEST HILLMAN
President SEASC

Following the war the two engineers expanded their operations so that today they have one of the most active and progressive design offices in this vicinity. Some of the better known buildings include the main exhibit building at the Los Angeles County Fair Grounds, Bullock's Pasadena Store, Bell Garden's High School, John Luther Burbank High School in Burbank and the Willow Glenn High School, San Jose.

Hillman is a member of the American Society of Civil Engineers, Consulting Engineers Association of Southern California and the Jonathan Club. He is very active in building industry activities, having served on many committees dealing with code and legislative matters.

Structural Engineers Association of Southern California closed the year with a membership of 301. It is Hillman's desire that everyone of these men take an active part in the affairs of the group. During 1950 the Southern California group will play host to the state association convention which is expected will be held at Coronado in the fall. Although Bolin, president of the state association will preside, a good deal of preparation will be the responsibility of Hillman's Southern California members. Another project slated for the new year is a joint meeting with the American Society of Civil Engineers to be held in April at Los Angeles.

Other officers elected to serve during the coming year includes Donald F. Shugart, vice president; R. J. Short, secretary-treasurer; directors, C. M. Herd, John Minasian. Other directors carried over from last year include the past president, Harry Bolin, John Case and Lewis Osborn.

CALDWELL AWARDED SCOTT MEDAL

Frank W. Caldwell, director of research for United Aircraft Corporation, has been awarded the City of Philadelphia's John Scott Award for development of the controllable pitch propellor for aircraft.

A pioneer in the development of the propellor that has become known as "the gearshift of the air", Caldwell joins a distinguished group of scientists receiving the award since it was established in 1816 by John Scott, a chemist.

STRUCTURAL ENGINEERS ASSOCIATION OF SOUTHERN CALIFORNIA

The Structural Engineers Association of Southern California played host to the Southern California Chapter of the A.I.A. in their annual joint meeting and dinner, held at the Aeronautical Sciences Building in Los Angeles, the latter part of November. Harry Bolin, president of the Structural Engineers Association, presided at the business affairs of that association, dealing mainly with the convention report, covering the engineers convention at Yosemite, and the architects convention held at Palm Springs. After hearing these reports by the engineers representatives, John Menassian, Van Lee Schmidt and George Brandow, the gavel

(See Page 33)

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Edited by J. Wilson Peele, LEATHAM & PEELE BUILDING PRODUCTS

PRESIDENT'S MESSAGE!

DON W. LYON
Chapter President and District Manager, Libbey-Owens-Ford Glass Company.

In the hoary tradition of all gavel-pounders, it is considered mandatory that a report be submitted as a hail-and-farewell covering such progress as has been made by the San Francisco Chapter during 1949. Such a report has the triple virtue of indoctrinating newer members as to what they were spared; glosses over the mistakes made by the retiring officers; and tends to quiet such incipient riots as might be wandering loose.

Although the hectic year of 1949 has now slipped well behind us and we are faced with the challenges of 1950, the pattern of activity set by the '49ers, though sure to be improved upon, seems worthy of consideration because of its increased scope. The year marked by both a greater variety in the type of meetings and greatly increased attendance at each. Under the able guidance of Jack Peelle the Council became considerably more newsworthy during the year. The page which you are reading was revived after a lapse of several years and we are indebted to the ARCHITECT & ENGINEER for their cooperation.

Another revival took place in May when the first postwar Table Top Exhibit was staged at the St. Francis Hotel. The attendance of architects and engineers was most gratifying, as was the participation in the exhibit of virtually every member company in the Council. The committee, headed by Chairman Herb Duncan and including Carl Frank, Clyde Cornell, and Jack Keefe did a highly commendable job.

June marked the inauguration of the separate "Sports Meeting" idea. In past years this event had been combined with the December Hi-Jinx. Chairman Fred Figone and his committee of Don Davis, Jim Ferguson and Ace Boldemann staged the festivities at the Peninsula Golf & Country Club.

Palm Springs was the locale in November of the 22nd annual convention of the California Council of Architects. As in previous years the two California chapters of the Producers' Council were invited to participate and there were many members and their wives very much present during the three day western-style clambake.

As the grand finale to a most active and progressive year, the 19th Christmas Hi-Jinx was presented at the Claremont Hotel, Berkeley, on Nov. 30. Under the masterful direction of Chuck Kraft as General Chairman, ably assisted by Ray Brown, Jerry Barr and George Conley, the year-end opus broke all attendance records. Following (?) a "Gay 90s" theme and featuring some of the greatest unsung talent in the Bay Area, our councilmen-turned-thespian ended their many weeks of rehearsals with an ear splitting climax. Our most sincere thanks and congratulations go to Art Staat, Herb Duncan, Clyde Cornell, Jack Armstrong, George Conley, Howard Noleen, Bill Hauserman, Jim Ferguson, Dick Peterman, John Cowley, Carl Frank and Bill Lewis for a job well done. Special mention should go to Jim Anderson, President of the East Bay Chapter, A.I.A., for his tireless ecorts and splendid help in working with the cast.

No resume can be considered complete without some type of strength report. Your chapter during 1949 registered its greatest gain in members for any comparable period. We are proud to have welcomed into membership in 1949 the following: E. F. Hauserman Co., Minneapolis-Honeywell

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In conclusion our heart felt thanks go to all the members whose efforts have resulted in our now being considered as perhaps the most active chapter in the United States. And a very special kind of thanks goes to the officers and committee chairmen without whose help we could have accomplished little. May succeeding prexies be so fortunate!

WITH THE ENGINEERS

(From Page 31)

was turned over to A. C. Martin, Jr., president of the local group of the A.I.A. A lively business session followed including the presentation of the nominees for the 1950 officers of that association, and a discussion on some constitutional changes.

Following this enjoyable exchange of business affairs and the considerable amount of good natured jibing, the meeting was turned over to Don F. Shugart, structural engineer, who was program chairman for the evening. With little ado the main speaker of the evening was presented. For the next hour and a half the group was treated to a talk unsurpassed in clarity and vigor and presentation of the major problems of today's troubled world. The speaker was Mr. D. Webber Lane, vice president of the Southern California Edison Company, tax counsel and director of public relations; regional vice president of the National Association of Manufacturers and chairman of the N.A.M.'s Hoover Commission Committee, his subject was "Socialism Versus Private Enterprise."

NEW MEMBERS: The board of directors has approved the following new members. W. M. Taggart, member; Frank T. Collins, Verne D. Heddon, David Varver, Jr., Clarkson Pinkham, and Jerome L. Peterson, associate members. George Youngclause, junior member.

PUBLICATIONS COMMITTEE: At a recent meeting the board of directors voted to form a new committee, to be known as "Publications Committee." Lew Osborne, structural engineer with Kistner, Curtis and Wright, is chairman and is assisted by Harold P. King, consulting structural engineer and John Minasian of Johnson and Minasian, consulting engineers. There has long been a need for such a committee, in the opinion of Harry Bolin, president of the association, to disseminate technical information to the entire group.

Compilation, assembly and publication of the annual roster will be the number one job for the committee. It will then publish monthly technical articles as developed by committees or individ-

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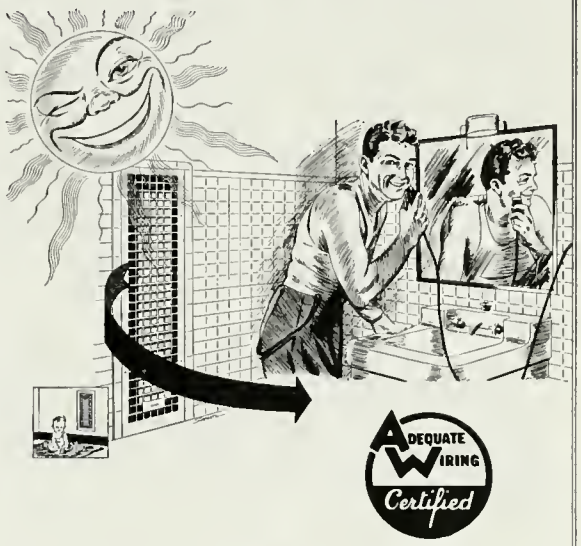

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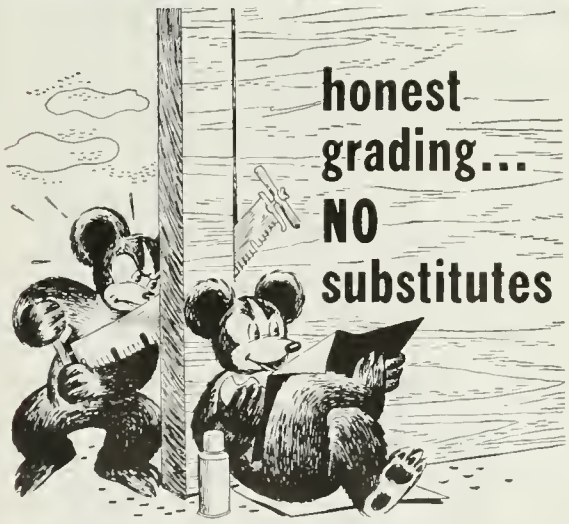

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uals. At the present time there are a number of reports that will be of interest to the members at large. A special committee recently completed a report on diaphragms for structural design; another report on tilt up concrete has been turned in to the association. Following these will be reports from other committees working on recommended practices for light steel, for glued laminated construction, for masonry construction, for fire resistive construction as well as many individual technical papers that have already been presented.

STRUCTURAL ENGINEERS ASSOCIATION OF NORTHERN CALIFORNIA

At the annual meeting of the Structural Engineers Association of Northern California, held early in December, Arthur W. Anderson of Oakland was elected to serve as president of the group for the ensuing year.

ARTHUR W. ANDERSON
President SEANC

Anderson, a licensed architect as well as a structural engineer, is a member of the firm of Will G. Corlett and Arthur W. Anderson, architects and engineers of Oakland, California.

Other officers elected to serve during 1950 are: John E. Rinne, San Francisco, vice president; Franklin P. Ulrich, San Francisco, treasurer; George E. Solnar, Jr., San Francisco, secretary, and the following directors: Howard C. Schirmer, Walter L. Dickey, George A. Sedgwick, Harold O. Sjoberg and Jesse Rosenwald.

NAMED PRESIDENT OF ENGINEERING SOCIETY

Leslie T. Avery, president of the Avery Engineering Company of Cleveland, Ohio, was recently named president of the American Society of Heating and Ventilating Engineers for 1950.

Other officers named to serve the Society for the ensuing year included: Lauren E. Seeley, Dean of the College of Technology, University of New Hampshire, vice-president; Ernest Szekely, president Baylor Blower Company, Milwaukee, Wis., second vice-president; Reg F. Taylor, consulting engineer, Houston, Texas, treasurer.

RURAL ELECTRIC ADMINISTRATION

The Rural Electrification Administration is recruiting electrical engineers for work in Washington and the field.

Work consists of a review of specifications, inspection of completed construction, and rendering technical advice on operations to its borrowers.

IN THE NEWS

WRIGHT HOUSE BENEFITS INTERNATIONAL FUND

The newest Frank Lloyd Wright house in the San Francisco Bay area, and one which is considered by the A.I.A. as an outstanding example of Wright's modern architecture, was recently opened to the public's inspection with a small charge for admission going to the International Fellowship fund of the YWCA.

Every room opens to terraces and patios bringing the outside inside. The exterior is of redwood siding and concrete block.

PLASTIC TECHNICAL CONFERENCE COMING

The Sixth Annual National Technical Conference of the Society of Plastic Engineers, Inc., will be held in Cleveland, Ohio, from January 11 to 13th.

Program speakers will include: Dr. Gilbert Thiessen; A. J. Gaio; T. J. Kerr; C. J. Snyder; Merrill J. Ainsworth; and Hans E. Buecken.

SAN FRANCISCO STATE COLLEGE AWARDED FUNDS

The State of California, through the Division of Architecture, has alloted some $1,190,000 for the construction of a new Administration Building and a new Fine Arts Building on the San Francisco State College campus in San Francisco.

E. Geoffrey Bangs, San Francisco, is the architect.

NEW BUILDING AT SAN JOSE STATE

San Jose State College will get a new $726,963 Speech Building as a result of action taken by the State of California, Division of Architecture, in alloting that amount to the college recently.

Work will start at once on the building, according to Ralph Wyckoff, architect, of San Jose.

NEW HOSPITAL AT HAYWARD

Architects D. D. Stone & Lou Mulloy of San Francisco, have been commissioned by the Eden Township Hospital District of Hayward (California) to design a new 118 bed hospital to be built in Hayward.

Funds totaling $1,128,000 are available for the work and construction.

SCHOOL FOR DEAF GET NEW BUILDINGS

The California School for the Deaf in Berkeley, California, has been awarded some $1,200,000 in state funds for the construction of a new kindergarten and girls dormitory building.

Work on the project is to start at once, according to the Division of Architecture.

NAMED RADIATOR ADVERTISING HEAD

Harold D. McAneny, formerly account executive with the Morris F. Swaney, Inc., advertising agency, has been appointed director of advertising for the Richmond Radiator Company, Inc., of New York, an affiliate of the Reynolds Metals Company.

During the late war McAney served as a Captain with the 77th Division in the Pacific area.

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HEADLINE NEWS & VIEWS

By E. H. W.

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"A political fight has to be won" to defeat "a planned campaign that is leading us step by step toward a welfare state, socialism or statism.":—Cloud Wampler, president Carrier Corp'n.

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CALIFORNIA tax-payers pay—and pay. Average U. S. payment for needy aged is $43.50, while the California payment is $75 per person.

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BETTER living standards can be won only through increased productivity, made possible by better plants, better tools and better methods.

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LOANS made by savings and loan associations to homeowners for repairs and modernization are running about 200% over the volume of similar loans ten years ago.

• • •

TWO competitions open to architectural students throughout the United States have been announced by the Tile Council of America, in cooperation with the Beaux-Arts Institute of Design in New York City.

• • •

CONGRESS will have to review its long-range financial commitments if it is to come to grips with the increasingly perplexing budget problems . . . representing uncontrolled spending.

• • •

"NATIONAL security depends as much on good relations between employers and employees as on economic and technological strength." — Herman W. Steinkraus, president, Chamber of Commerce of the United States.

• • •

DESPITE Hoover Commission recommendations for federal pay-roll cutting, the government is still hiring more employees, and at increasing pay scales . . . costing you a mere $227 in taxes annually.

• • •

RETROGRESS—the new Florsheim Shoe Company building which opened recently, is the first factory to be built in the Chicago Loop district during the past 10 years. Any West Coast city can beat that record.

BOOK REVIEWS
PAMPHLETS AND CATALOGUES

SHOPPING CENTERS, An Analysis. Urban Land Institute, Washington, D. C. Price $5.00.

The authors Seward H. Mott and Max S. Wherly have taken the rapidly developing problem of the shopping center, its relation to urban and suburban habits and traffic patterns, and show by numerous examples the solution of planned neighborhoods and communities.

The book discusses a number of individual shopping center projects now in operation, and covers a wide range of types in a broad geographical distribution.

HEATING. VENTILATING AND AIR CONDITIONING FUNDAMENTALS. By William H. Severns and Julian R. Fellows. John Wiley & Sons, Inc., New York, publishers. Price $6.50.

The purpose of this book (second edition) is to present the fundamentals of heating, ventilating and air conditioning, together with authentic data on accepted commercial practice. Methods of application and equipment available, results of extensive research, and much authentic data is presented for engineers, architects and heating contractors as well as for students of architecture and mechanical engineering. Gives accepted commercial practices, theory, and typical calculations.

NEW CATALOGUES AVAILABLE

Any of the catalogues or folders described here may be obtained by forwarding your request as indicated in the coupon below to the office of the ARCHITECT & ENGINEER. *Merely mark the items you want and clip or paste the coupon to your letterhead.*

133. FREESTANDING LIBRARY SHELVING: A folder has been prepared by W. R. Ames Company of San Francisco, showing the design features and advantages of their freestanding library shelving units. This folder will be of interest as a means of providing for book storage with economy of space and adaptability of usage. 4 pages illus. 12/15/49.

134. COPPER ROOFING AND SHEET METAL WORK: A new master specification guide to sheet copper installation is now available from Revere Copper and Brass Incorporated. Prepared expressly for architects, sheet metal contractors and others interested in, or using sheet metal in building construction. A. I. A. 12, 23 pages. 9/49.

135. LODGEPOLE PINE FACTS FOLDER: This new booklet is an addition to a series which covers the three Western Pines and two of the associated species. It reviews the growth range and characteristics of Lodgepole Pine timber and the properties and uses of Lodgepole lumber in the building field. 4 pages illus. 12/49.

136. STEEL DOORS AND FRAMES—SLIDING CLOSET DOOR UNITS: Architect's specifications, construction details, dimensions, and other pertinent information concerning the new Amweld steel doors, frames, and sliding closet units are featured in a folder recently issued by the American Welding and Manufacturing Co. A.I.A. 16-A, 8 pages illus. 10/49.

137. POWERSTAT LIGHT DIMMING EQUIPMENT: A booklet of interest to school planners, builders, contractors and school authorities has been published for distribution by the Superior Electric Company. The booklet outlines in general the recommended uses of dimming units in the school. Examples are discussed in detail and illustrated. 8 pages illus. 11/49.

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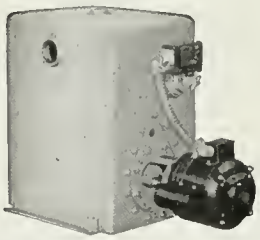

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A.I.A. ACTIVITIES

(From Page 29)

made in recognition of his distinguished contribution to the profession of architecture and regional planning", and represents the sixth foreign architect to receive the Gold Medal of the A.I.A. since it was established in 1906.

NATIONAL GOLD MEDAL EXHIBITION PLANNED

The Architectural League of New York will renew its Annual National Gold Medal Exhibition in 1950, according to a recent announcement from the League.

Similar exhibitions were held from 1881 until 1938 when the program was abandoned.

Exhibits will consist of architecture and allied arts and crafts, including painting, sculpture, landscape architecture, and design and craftsmanship. Exhibits in each category, after passing a jury of admissions, will be shown on a monthly time table, and a Medal of Award may be granted in each field.

A. I. A. ANNOUNCE DISTINGUISHED DESIGN AWARDS FOR THIS YEAR

Awards will be made for distinguished design in three classes of buildings in the 1950 National Honor Awards Program of The American Institute of Architects, Walter A. Taylor, A.I.A., Director of Education and Research recently announced.

Residential, commercial, and religious buildings completed since January 1, 1945, will be considered in The Institute's second annual program. All registered architects, practicing professionally in the United States, whether or not members of the A.I.A., are eligible to submit entries of buildings erected in this country or abroad.

Entries will be sent to Washington for judgment and exhibition at the 82nd annual convention May 10-13. National juries will select one entry in each classification for First Honor Award. In addition, Awards of Merit will be given to as many entries as the juries wish to cite for excellence in architecture.

NATIONAL CONFERENCE ON DESIGN THEME

Advantages of designing buildings "with the weather" was stressed by architects participating in a Research Correlation Conference on "Weather and the Building Industry," held by the Building Research Advisory Board in Washington on January 11-12.

A balanced utilization of natural forces and mechanical equipment in the design of shelter and good living conditions was discussed by participants in a round-table discussion on climate related to design, according to Walter A. Taylor, moderator and Director of the Department of Education and Research of The American Institute of Architects and a member of BRAB.

Dr. L. P. Herrington, well-known physiologist of Yale University, took part in the discussion with the following members of the A.I.A.: William B. Caudill, College Station, Texas; Robert W. Cutler, New York; Carl Koch, Cambridge, Mass; Alfred B. Parker, Miami; and Buford L. Pickens, New Orleans.

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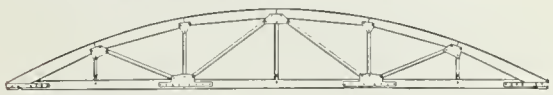

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BONDS—Performance or Performance plus Labor and Material Bond(s), $10 per $1000 on contract price. Labor & Material Bond(s) only, $5.00 per $1000 on contract price.

BRICKWORK—

Common Brick—Per 1M laid—$100.00 up (according to class of work).

Face Brick—Per 1M laid—$200.00 and up (according to class of work).

Brick Steps—$3.00 and up.

Common Brick Veneer on Frame Bldgs.—Approx. $1.20 and up—according to class of work).

Face Brick Veneer on Frame Bldgs.—Approx. $2.00 and up (according to class of work).

Common Brick—$33.00 per M—truckload lots, delivered.

Face Brick—$50.00 to $90.00 per M, truckload lots, delivered.

Fire Brick—Per M—$90.00 to $125.00.

Cartage—Approx. $9.00 per M.

Paving—$75.00.

BUILDING PAPER & FELTS

1 ply per 1000 ft. roll	$5.30
2 ply per 1000 ft. roll	7.80
3 ply per 1000 ft. roll	9.70
Brownskin, Standard 500 ft. roll	6.85
Sisalkraft, reinforced, 500 ft. roll	7.00
Sheathing Papers—	
Asphalt sheathing, 15-lb. roll	$2.20
30-lb. roll	2.93
Campcourse, 216-ft. roll	2.95
Blue Plasterboard, 60-lb. roll	S.10
Felt Papers—	
Deadening felt, ¾-lb., 50-ft. roll	$3.13
Deadening felt, 1-lb.	3.69
Asphalt roofing, 15 lbs.	2.20
Asphalt roofing, 30 lbs.	2.93
Roofing Papers—	
Standard Grade, 108-ft. roll, Light	$1.75
Medium	2.04
Heavy	2.40
Extra Heavy	2.77

BUILDING HARDWARE—

Sash cord com. No. 7	$2.65 per 100 ft.
Sash cord com. No. 8	3.80 per 100 ft.
Sash cord spot No. 7	3.65 per 100 ft.
Sash cord spot No. 8	4.00 per 100 ft.
Sash weights, cast iron $100.00 ton.	
1-Ton lots, per 100 lbs	$3.75
Less than 1-ton lots, per 100 lbs	$4.75
Nails, per keg, base	$10.55
8-in. spikes	10.55
Rim Knob lock sets	1.80
Butts, dull brass plated on steel, 3½x3½	.73

CONCRETE AGGREGATES—

The following prices net to Contractors unless otherwise shown. Carload lots only.

	Bunker per ton	Del'd per ton
Gravel, all sizes	$2.44	$2.90
Top Sand	2.38	3.13
Concrete Mix	2.38	3.04
Crushed Rock, ¼" to ¾"	2.38	2.90
Crushed Rock, ¾" to 1½"	2.38	2.90
Roofing Gravel	2.81	2.90
River Sand	2.50	3.00
Sand—		
Lapis (Nos. 2 & 4)	3.56	3.94
Olympia (Nos. 1 & 2)	3.56	3.88

Cement—

Common (all brands, paper sacks), carload lots, $3.38 per bbl. f.o.b. car; delivered $3.60.

Per Sack, small quantity (paper) $1.00

Carload lots, in bulk per bbl 2.78

Cash discount on carload lots, 10c a bbl., 10th Prox., less than carload lots $4.00 per bbl. f.o.b. warehouse or delivered.

Cash discount 2% on L.C.L.

Trinity White, Medusa White — 1 to 100 sacks, $3.13 sack warehouse or del.; $9.56 bbl. carload lots.

CONCRETE READY-MIX—

1-2-4 mix, to 10 yards*	$11.75
10 to 100 yards*	10.75
Over 100 yards*	10.25

* Delivered to site.

CONCRETE BLOCKS—

	Haydite	Basalt
4x8x16-inches, each	$.16	$.16
6x8x16-inches, each	.21	.21
8x8x16-inches, each	.25	.25
12x8x16-inches, each	.33	
12x8x24-inches, each		.60

Haydite Aggregates—

¾-inch to ⅜-inch, per cu. yd.	$6.50
⅜-inch to ⅛-inch, per cu. yd.	6.50
⅛-inch to 0-inch, per cu. yd.	7.00

DAMPPROOFING and Waterproofing—

Two-coat work, $9.00 per square.

Membrane waterproofing—4 layers of saturated felt, $10.00 per square.

Hot coating work, $5.00 per square.

Medusa Waterproofing, $3.50 per lb. San Francisco Warehouse.

Tricosal concrete waterproofing. 50c a cubic yd. and up.

ELECTRIC WIRING—$15 to $20 per outlet for conduit work (including switches).

Knob and tube average $6.00 per outlet. (Available only for priority work.)

ELEVATORS—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing a slow speed automatic passenger elevator in small four story apartment building, including entrance doors, about $8000.00.

EXCAVATION—

Sand, $1.00; clay or shale, $1.50 per yard.

Trucks, $30 to $45 per day.

Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

FIRE ESCAPES—

Ten-foot galvanized iron balcony, with stairs, $250 installed on new buildings; $300 on old buildings.

FLOORS—

Composition Floors, such as Magnesite, 50c per square foot.

Linoflor—2 gages—$3.00 per sq. yd.

Mastipave—$1.50 per sq. yd.

Battleship Linoleum—available to Army and Navy only—⅛"—$3.50 sq. yd. 3/16"—$3.50 sq. yd.

Terazzo Floors—$1.50 per sq. ft.

Terazzo Steps—$2.50 per lin. ft.

Mastic Wear Coat—according to type—20c to 35c.

Hardwood Flooring—

Standard Mill grades not available.

Victory Oak— T & G

25/32 x 2¼"	$252.00 per M. plus Cartage
½ x 2"	$210.00
½" x 1½"	200.00

Prefinished Standard & Better Oak Flooring

25/32 x 3¼"	$265.00 per M. plus Cartage
½ x 2½"	237.00 per M. plus Cartage

Maple Flooring

25/32" T & G Clear	$330.00 per M. plus Ctg.
2nd	305.00 per M. plus Ctg.
3rd	255.00 per M. plus Ctg.

Floor Layers' Wage, $2.28½ per hr. (Legal as of July 1, 1947. Given us by Inlaid Floor Co.)

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Single Strength Window Glass	$ .25 per □ ft.
Double Strength Window Glass	.35 per □ ft.
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¼ in. Polished Wire Plate Glass	1.00 per □ ft.
¼ in. Rgh. Wire Glass	.58 per □ ft.
Obscure Glass	.45 per □ ft.

Glazing of above is additional.

Glass Blocks $2.75 per □ ft. set in place

HEATING—

Average, $2.50 to $3.00 per sq. ft. of radiation, according to conditions.

Warm air (gravity) average $64 per register.

Forced air average $91 per register.

INSULATION AND WALLBOARD—

Rockwool Insulation—	
(2")	$65.00 per M sq. ft.
Cotton Insulation—Full-thickness (3⅝")	$95.50 per M sq. ft.
Sisalation Aluminum Insulation—Aluminum coated on both sides	$23.50 per M sq. ft.
Tileboard—4'x6' panel	$9.00 per panel
Wallboard—½" thickness	$55.00 per M sq. ft.
Finished Plank	$69.00 per M sq. ft.
Ceiling Tileboard	$69.00 per M sq. ft.

IRON—Cost of ornamental iron, cast iron, etc., depends on designs.

LUMBER—

No. 1 Common	$85.00 per M
No. 2 Common	83.00 per M
Select O. P. Common	90.00 per M

Flooring—

	Per M Delvd.
V.G.-D.F. B & Btr. 1 x 4 T & G Flooring	$225.00
"C" and better—all	225.00
"D" and better—all	225.00
Rwd. Rustic—"A" grade, medium dry, 8 to 24 ft.	185.00
"B" grade, medium dry	150.00
Plywood	18c to 20c per ft.
Plyscord	11½c per ft.
Plywall	9c per ft.
Plyform	15c per ft.

Shingles (Rwd. not available)—

Red Cedar No. 1—$9.50 per square; No. 2, $7.00; No. 3, $5.00.

Average cost to lay shingles, $6.00 per square.

Cedar Shakes—½" to ¾" x 24/26 in handsplit tapered or split resawn, per square	$15.25
¾" to 1¼" x 24/26 in split resawn, per square	17.00

Average cost to lay shakes,— 8.00 per square

MARBLE—(See Dealers)

METAL LATH EXPANDED—

Standard Diamond, 3.44, Copper Bearing, per carloads, per 100 sq. yds. $35.50

Standard Ribbed, ditto 37.70

MILLWORK—Standard.

D. F. $150 per 1000. R. W. Rustic $175 per 1000 (delivered).

Double hung box window frames, average with trim, $12.50 and up, each.

Complete door unit, $15 to $25.

Screen doors, $8.00 to $12.00 each.

Patant screen windows, $1.25 a sq. ft.

Cases for kitchen pantries seven ft. high, per lineal ft., upper $9.00 to $11.00; lower $12.00 to $13.00.

Dining room cases, $20.00 per lineal foot. Rough and finish about $1.00 per sq. ft.

Labor—Rough carpentry, warehouse heavy framing (average), $75.00 per M.

For smaller work average, $85.00 to $100. per 1000.

PAINTING—

Two-coat work	per yard 85c
Three-coat work	per yard $1.10
Cold water painting	per yard 25c
Whitewashing	per yard 15c
Turpentina	$1.85 per gal. in 5-gal. cont.
Raw Linseed Oil	$3.33 per gal. in 5-gal. cont.
Boiled Linseed Oil	$3.23 par gal. in drums.
Boiled Linseed Oil—$3.33 per gal. in S-gal. containers.	
Replacement Oil—$2.75 per gal. in drums. $2.75 per gal. in 5-gal. containers.	
Use Replacement Oil	$3.00 per gal. in 1 gal. cont.

A deposit of $7.50 required on all drums.

PATENT CHIMNEYS—

6-inch	$2.50 lineal foot
8-inch	3.00 lineal foot
10-inch	4.00 lineal foot
12-inch	5.00 lineal foot

PLASTER—

Neat wall, per ton delivered in S. F. in paper bags, $17.60.

PLASTERING (Interior)—

	Yard
3 Coats, metal lath and plaster	$3.00
Keene cement on metal lath	3.50
Ceilings with ¾ hot roll channels metal lath (lathed only)	3.00
Seilings with ¾ hot roll channels metal lath plastered	4.50
Single partition ¾ channel lath 1 side (lath only	3.00
Single partition ¾ channel lath 2 inches thick plastered	8.00
4-inch double partition ¾ channel lath 2 sides (lath only)	5.75
4-inch double partition ¾ channel lath 2 sides plastered	8.75
Thermax single partition; 1" channels; 2¼" overall partition width. Plastered both sides	7.50
Thermax double partition; 1" channels; 4¾" overall partition width. Plastered both sides	11.00
3 Coats over 1" Thermax nailed to one side wood studs or joists	4.50
3 Coats over 1" Thermax suspended to one side wood studs with spring sound isolation clip	5.00

Note—Channel lath controlled by limitation orders.

PLASTERING (Exterior)—

	Yard
2 coats cement finish, brick or concrete wall	$2.50
3 coats cement finish, No. 18 gauge wire mesh	3.50

Lime—$4.00 per bbl. at yard.

Processed LLiLme—$4.15 per bbl. at yard.

Rock or Grip Lath—⅜"—30c per sq. yd. ⅝"—29c per sq. yd.

Composition Stucco—$4.00 sq. yard (applied).

PLUMBING—

From $200.00 per fixture up, according to grade, quality and runs.

ROOFING—

"Standard" tar and gravel, 4 ply—$11.00 per sq. for 30 sqs. or over.

Less than 30 sqs. $14.00 per sq.

Tile $40.00 to $50.00 per square.

No. 1 Redwood Cedar in place, 4½ in. exposure, per square	$18.25
5/2 No. 1 Cedar Shingles, 5 in. exposure, per square	14.50
5/8 x 16"—No. 1 Little Giant Cedar Shingles, 5" exposure, per square	18.25
4/2 No. 1-24" Royal Cedar Shingles 7½" exposure, per square	23.00

Re-coat with Gravel $5.50 per sq.

Asbestos Shingles $35 to $45 par sq. laid.

½ to ¾ x 25" Resawn Cedar Shakes, 10" Exposure	$24.00
¾ to 1¼ x 25" Resawn Cedar Shakes, 10" Exposure	$29.00
1 x 25" Resawn Cedar Shakes, 10" Exposure	22.00

Above prices are for shakes in place.

SEWER PIPE—

C.I. 6-in. to 24-in. B. & S. Class B and heavier, per ton	$99.50
Vitrified, per foot:	
Standard, 8-in.	$ .62
Standard, 12-in.	1.09
Standard, 24-in.	4.72
Clay Drain Pipe, per 1,000 L.F. in carload lots:	
Standard, 6-in.	$211.00
Standard, 8-in.	352.00

SHEET METAL—

Windows—Metal, $2.50 a sq. ft.

Fire doors (average), including hardware $2.80 per sq. ft., size 12'x12'. $3.75 par sq. ft., size 3'x6'.

SKYLIGHTS—(not glazed)

Copper, $1.25 sq. ft. (flat).

Galvanized iron, 65c sq. ft. (flat).

Vented hip skylights, $1.50 sq. ft.

STEEL—STRUCTURAL—

$220 per ton erected, when out of mill.

$270 per ton erected, when out of stock.

STEEL REINFORCING—

$200.00 per ton, in place.

¼-in. Rd.	$7.15
⅜-in. Rd.	6.40
½-in. Rd.	6.20
⅝-in. Rd.	6.05
¾-in. & ⅞-in. Rd.	6.00
1-in. & up	5.95

STORE FRONTS (None available).

TILE—

Ceramic Tile Floors—Commercial $1.15 to $1.50.

Cove Base—$1.35 per lin. ft.

Tile Wainscot & Floors—Residential $1.50 to $1.75.

Tile Wainscot—Commercial $1.35 to $1.50.

Asphalt Tile Floor ⅛" x ⅛"—$ .40 per sq. ft. Light shades slightly higher.

Cork Tile—$1.00 per sq. ft.

Mosaic Floors—See dealers.

Lino-Tile—$1.00 per sq. ft.

Wall Tile—

Glazed Terra Cotta Wall Units (single faced) laid in place—approximate prices:

2 x 6 x 12	$1.25 sq. ft.
4 x 6 x 12	1.50 sq. ft.
2 x 8 x 16	1.45 sq. ft.
4 x 8 x 16	1.75 sq. ft.

Building Tile—

8x5½x12-inches, per M	$139.50
6x5½x12-inches, per M	105.00
4x5½x12-inches, per M	84.00

Hollow Tile—

12x12x3-inches, per M	$124.00
12x12x4-inches, per M	139.50
12x12x0-inches, per M	176.00

VENETIAN BLINDS—

75c per square foot and up. Installation extra.

WINDOWS—STEEL—

60c per square foot, $5 for ventilators.

ARCHITECT AND ENGINEER

ESTIMATOR'S DIRECTORY

Building And Construction Materials

EXPLANATION—Building and construction materials are shown in major classified groups for general identification purposes with names and addresses of suppliers of materials listed in detail under group classification where name first appears—main offices are shown first, with branch or district offices following. The numeral appearing in listings refers to the major group classification where complete data on the dealer, or representative, may be found.

CKWORK (1)

e Brick
Gladding, McBean & Co.
an Francisco: Harrison at 9th Sts., UN 1-7400
os Angeles: 2901 Los Feliz Blvd., OL 2121
Offices at Portland, Seattle, Spokane
raftile
Niles, California, Niles 3611
an Francisco 5: 50 Hawthorne St., DO 2-3780
os Angeles 13: 406 South Main St., MU 7241
emillard-Dandini Co.
an Francisco: 400 Montgomery St., EX 2-4988
ramic Veneer
acific Clay Products
an Francisco: 605 Market St., GA 1-3970
os Angeles, Portland, Salt Lake City

ILDING PAPER & FELTS (2)

isalkraft Company
an Francisco: 55 New Montgomery St., EX 2-3066
Chicago, Ill.: 205 West Wacker Drive
ngier Pacific Corp.
an Francisco 5: 55 New Montgomery St., DO 2-4416
os Angeles: 7424 Sunset Boulevard

ILDING HARDWARE (3)

he Stanley Works
an Francisco: Monadnock Bldg., YU 6-5914
New Britain, Conn.

NCRETE AGGREGATES (4)

ment
acific Portland Cement
an Francisco: 417 Montgomery St., GA 1-4100
ntweight Aggregates
merican Perlite Corp.
ichmond, Calif.: 26th & B Sts.—Yard 2, RI 4307

E ESCAPES (5)

oule Steel
an Francisco: 1750 Army St., VA 4-4141
os Angeles, Calif.—LA 0911
ortland, Ore.—BE 5155
eattle, Wash.—SE 3010
Michel & Pfeffer Iron Works, Inc.
an Francisco 3: Tenth & Harrison Sts., MA 1-5966

FLOORS (6)

Hardwood Flooring

Hogan Lumber Company
Oakland: Second and Alice Sts., GL 1-6861

E. K. Wood Lumber Co.
Los Angeles: 4710 S. Alameda St., JE 3111
Oakland: 727 Kennedy St., KE 4-8466
Portland: 827 Terminal Sales Building

GLASS (7)

W. P. Fuller Company
San Francisco: 301 Mission St., EX 2-7151
Los Angeles, Calif.
Portland, Oregon

HEATING (8)

Henderson Furnace & Mfg. Co.
Sebastopol, Calif.

S. T. Johnson Co.
Oakland 8: 940 Arlington Ave., OL 2-6000
San Francisco: 585 Potrero Ave., MA 1-2757
Philadelphia 8, Pa.: 401 No. Broad St.

Scott Company
San Francisco: 243 Minna St., YU 2-0400
Oakland: 113 - 10th St., GL 1-1937
San Jose, Calif.
Los Angeles, Calif.

Thomas B. Hunter (Designer)
San Francisco: 41 Sutter St., GA 1-1164

INSULATION AND WALLBOARD (9)

Lumber Manufacturing Co.
San Francisco: 225 Industrial Ave., JU 7-1760

Sisalkraft Company *(2)

Western Asbestos Company
San Francisco: 675 Townsend St., KL 2-3868
Oakland: 251 Fifth Avenue, GL 1-2345
Sacramento: 1224 I Street, 2-8993
Stockton: 1120 E. Weber Ave., 4-1863
Fresno: 1837 Merced Street, 3-3277
San Jose: 201 So. Market St., BA 4359-J

IRON—Ornamental (10)

Michel & Pfeffer Iron Works, Inc. *(5)

LIGHTING FIXTURES (11)

Smoot-Holman Company
San Francisco: 55 Mississippi St., MA 1-8474

LUMBER (12)

Hogan Lumber Company *(6)
Lumber Manufacturing Co. *(9)
E. K. Wood Lumber Co. *(6)

Shingles

Sidewall Lumber Company
San Francisco 24: 1995 Oakdale Ave., AT 2-8112

MARBLE (13)

Vermont Marble Company
San Francisco: 525 Market St., SU 1-6747
Los Angeles 4: 3522 Council St., FA 7834

METAL LATH EXPANDED (14)

Forderer Cornice Works
San Francisco: 269 Potrero Ave., HE 1-4100
Soule Steel *(5)

MILLWORK (15)

Pacific Manufacturing Company
San Francisco: 16 Beale St., GA 1-7755
Santa Clara: 2610 The Alameda, SC 607
Los Angeles: 6820 McKinley Ave., TH 4196

Mullen Manufacturing Company
San Francisco: 60-80 Rausch St., UN 1-5815

Lumber Manufacturing Company *(9)

PAINTING (16)

The Tormey Company
San Francisco: 563 Fulton St., UN 1-1913

Paint

W. P. Fuller Company *(7)

Wood Preservatives

Gunn Carle & Company
San Francisco: 20 Potrero Ave., UN 1-5480

PLASTER (17)

Exteriors

Pacific Portland Cement Company *(4)

Interiors—Metal Lath & Trim

Forderer Cornice Works *(14)

PLUMBING (18)

The Scott Company *(8)
The Halsey Taylor Company
Redlands, Calif.
Warren, Ohio
Haws Drinking Faucet Company
Berkeley 10: 1435 Fourth St., LA 5-3341
Continental Water Heater Company
Los Angeles 31: 1801 Pasadena Ave., CA 6178
Simonds Machinery Company
San Francisco: 816 Folsom St., DO 2-6794
Los Angeles: 455 East 4th St., MU 8322
Security Valve Company
Los Angeles 31: 410 San Fernando Road, CA 6191

SEWER PIPE (19)

Gladding, McBean & Co. *(1)

SHEET METAL (20)

Windows
Detroit Steel Products Company
Oakland 8: 1310 - 63rd St., OL 2-8826
San Francisco: Russ Building, DO 2-0890
Michel & Pfeffer Iron Works, Inc. *(5)
Soule Steel Company *(5)
Fire Doors
Detroit Steel Products Company
Skylights
Detroit Steel Products Company

STEEL—STRUCTURAL (21)

Herrick Iron Works
Oakland: 18th & Campbell Sts., GL 1-1767
Judson Pacific-Murphy Corp.
Emeryville: 4300 Eastshore Highway, OL 3-1717
Republic Steel Corp.
San Francisco: 116 N. Montgomery St., GA 1-0977
Los Angeles: Edison Building
Seattle: White-Henry-Stuart Building
Salt Lake City: Walker Bank Building
Denver: Continental Oil Building
Kraftile Company *(1)
San Jose Steel Company
San Jose: 195 North Thirtieth St., CO 4184

STEEL—REINFORCING (22)

Republic Steel Corp. *(21)
Herrick Iron Works *(21)
San Jose Steel Co. *(21)

TILE (23)

Gladding, McBean & Co. *(1)
Kraftile Company *(1)

WALL TILE (24)

Gladding, McBean & Co. *(1)
Kraftile Company *(1)

WINDOWS STEEL (25)

Detroit Steel Products Co. *(20)
Michel & Pfeffer Iron Works, Inc. *(5)
Soule Steel Company *(5)

GENERAL CONTRACTORS (26)

Dinwiddie Construction Company
San Francisco: Crocker Building, YU 6-2718
Clinton Construction Company
San Francisco: 923 Folsom St., SU 1-3440
Mattock Construction Company
San Francisco: 604 Mission St., GA 1-5516
Stolte, Inc.
Oakland: 8451 San Leandro Blvd., TR 2-1064
Swinerton & Walberg Company
San Francisco: 225 Bush St., GA 1-2980
Oakland: 1723 Webster St., HI 4-4322
Los Angeles, Sacramento, Denver
P. J. Walker Company
San Francisco: 391 Sutter St., YU 6-5916
Los Angeles: 3920 Whiteside St., AN 9-8567

TESTING LABORATORIES (ENGINEERS & CHEMISTS) (27)

Abbot A. Hanks, Inc.
San Francisco: 624 Sacramento St., GA 1-1697
Robert W. Hunt Company
San Francisco: 251 Kearny St., EX 2-4634
Los Angeles: 3050 E. Slauson, JE 9131
Chicago, New York, Pittsburgh
Pittsburgh Testing Laboratory
San Francisco: 651 Howard St., EX 2-1747

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ATTENTION: The following are the PREVAILING hourly rates of compensation being paid and in effect by employers by agreement between employees and their union; or as recognized and determined by the U. S. Department of Labor. (Revised to Sept. 1, 1949.)

CRAFT	San Francisco	Alameda	Contra Costa	Fresno	Sacramento	Santa Clara	Solano	Stockton	Los Angeles	San Bernardino	San Diego	Santa Barbara	Kern
ASBESTOS WORKERS	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.25	$2.25	$2.25	$2.25	$2.25
BRICKLAYERS	3.00*	3.00	3.00	2.50	3.00	3.00	3.00	2.05*	2.265	2.50	2.50	2.625	2.50
BRICKLAYERS, HODCARRIERS	2.25	2.25	2.25	2.00	2.00	1.75	2.25	1.60*	1.75	1.75	1.75	1.75	1.75
CARPENTERS	2.16	2.16	2.175	2.175	2.175	2.175	2.175	2.175	2.12	2.12	2.12	2.12	2.12
CEMENT FINISHERS	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20
ELECTRICIANS	2.50	2.50	2.50	2.25	2.50	2.50	2.40	2.40	2.40	2.40	2.375	2.40	2.15
ELEVATOR CONSTRUCTORS	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.25	2.25	2.25	2.25	2.25
ENGINEERS: MATERIAL HOIST	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	1.9875	1.9875	1.9875	1.9875	1.9875
PILE DRIVER	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.32	2.32	2.32	2.32	2.32
STRUCTURAL STEEL	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.30	2.30	2.2375	2.30	2.30
GLAZIERS	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.96
IRONWORKERS: ORNAMENTAL	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.175	2.175	2.1125	2.175	2.175
REINF. RODMEN	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.20	2.20	2.20	2.20	2.20
STRUCTURAL	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.30	2.30	2.2375	2.30	2.30
LABORERS: BUILDING	1.55	1.55	1.55	1.45	1.55	1.45	1.55	1.55	1.57	1.57	1.57	1.57	1.57
CONCRETE	1.55	1.55	1.55	1.45	1.55	1.45	1.55	1.55	1.57	1.57	1.57	1.57	1.57
LATHERS	2.8125	2.8125	2.8125	2.8125	2.00*	2.50*	2.8125	2.8125	2.50	2.50	2.50	2.50	2.50
MARBLE SETTERS	2.375	2.375	2.375	2.375	2.375	2.375	2.375	2.375	2.25	2.25	2.25	2.25	2.25
MOSAIC & TERRAZZO	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.40	2.40	2.20	2.40	2.40
PAINTERS	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.00	1.90	2.10	2.18	2.25
PILEDRIVERS	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25
PLASTERERS	2.8125	2.50*	2.50*	2.25*	2.25*	2.50*	2.50*	2.8125	2.50	2.75	2.50	2.50	2.50
PLASTERERS, HODCARRIERS	2.50	2.25*	2.25*	1.775*	2.00*	2.00*	2.25*	2.16	2.15	2.25	2.30	2.00	2.00
PLUMBERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
ROOFERS	2.25	2.25	2.25	1.875	2.00	2.00	2.16	2.25	2.25	2.00	1.90	2.00	2.00
SHEET METAL WORKERS	2.25	2.25	2.25	2.125	2.30	2.40	2.125	2.125	2.15	2.15	2.175	2.00	2.15
SPRINKLER FITTERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.25	2.25	2.25	2.25	2.25
STEAMFITTERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
STONESETTERS (MASONS)	3.00	2.8125	2.8125	2.25*	2.8125	2.8125	2.8125	2.05*	1.50	1.50	1.50	2.625	1.715
TILESETTERS	2.675	2.675	2.675	2.15	2.00	2.675	2.675	2.4375	2.50	2.50	2.20	2.50	2.25

.* 6 Hour Day. ** 7 Hour Day.

Prepared and compiled by:
CENTRAL CALIFORNIA CHAPTER, ASSOCIATED GENERAL CONTRACTORS OF AMERICA, with the assistance and cooperation of secretaries of General Contractors Associations and Builders Exchanges of Northern California; and the above information for southern California is furnished by the Labor Relations Department of the Southern California Chapter, ASSOCIATED GENERAL CONTRACTORS OF AMERICA.

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USE OF BASEMENTS

(From Page 8)

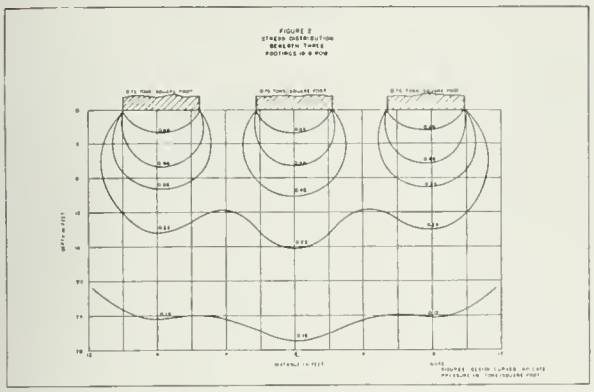

Figure 2

Stress distribution beneath three footings in a row.

relatively great distance from them. The area of foundation immediately below the footings shows considerable variation in stress intensity and this variation is not very much different for these columns which are equal in loading. There is only a slight additional loading under the center column due to contribution of the outside columns to stress under the center one. Deeper in the foundation there is very little rapid change of stress in any direction, but there is a difference in the stress values at any level due to contribution of the outer loads to the center load. The stress diagrams are for relatively strong material and are based on the Boussinesq equations as modified by pressure cell readings taken by the writer, so that they yield somewhat higher stresses than are indicated by the Boussinesq equations. The thing which tends to cause differential settlement in this case is the difference in stress at the lower levels. This means more settlement under the center column than under the two outside columns. Since this is so, it can easily be seen that if the increase of pressure in the foundation is kept within the range of the preconsolidation load so that settlement will occur along the flatter portion of the pressure-void ratio curve in Fig. 1, the total amount of the settlement and the amount of differential settlement will both be reduced. This is what is being attempted when a basement is being used for decreasing differential settlement. Often the difference can be made to mean the difference between a pile foundation and a spread footing foundation with consequent large saving to the client.

The method given herein is not one which can be used to advantage at all sites, but is one which often will prove economical if performed under the proper circumstances.

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CONSTRUCTION CONTRACTS AWARDED AND MISCELLANEOUS PERSONNEL DATA

HOLLISTER, San Benito County: New county jail building. County of San Benito, owner. $127,498. ARCHITECT: E. Geoffrey Bangs, San Francisco. Reinforced concrete construction, jail equipment, etc. GENERAL CONTRACTOR: Geo. C. Renz, Gilroy.

SACRAMENTO, Sacramento County: State Capitol building addition. State of California, owner. $5,866,300. STATE ARCHITECT: Anson Boyd, Sacramento, 6 story and basement, reinforced concrete construction, 340,000 sq. ft. floor area. Walls and floors are to be of reinforced concrete around steel frame being erected under another contract, and building is to be constructed upon a concrete foundation already in place. Exterior walls are to be faced to the height of 2 stories with granite and above this with cement plaster. Tile and plastered partitions, metal furring and plastering, terrazzo and marble flooring, double-glazed windows, marble facing, aluminum and stainless steel architectural work, wood paneling, metal sectional partitions, various acoustic treatments, electric elevator and dumbwaiter, air-conditioning, fluorescent lighting, boiler plant and composition roofing. GENERAL CONTRACTOR: Swinerton & Walberg, San Francisco.

SAN FRANCISCO: Office warehouse building. Continental Assurance Co., owner. $400,000. STRUCTURAL ENGINEER: L. J. Mezaros, San Francisco. 1 and 2 story, 200 x 300 brick and structural steel construction. GENERAL CONTRACTOR: Bechtel Corporation, San Francisco.

BAKERSFIELD, Kern County: New grammar school. Bakersfield Board of Education, owner. 22 classrooms, kindergarten, auditorium, library, offices and toilet rooms. $384,000. ARCHITECT: Wright, Metcalf & Parsons, Bakersfield. Frame and stucco, construction, some structural steel, steel sash and asphalt floor. GENERAL CONTRACTOR: Ashby & Opperman, Bakersfield.

REDWOOD CITY, San Mateo County: Super market building. Bouskos Bros., lessee. $130,000. ARCHITECT: J. Lloyd Conrich, San Francisco. 1 story, 125 x 220, structural steel frame, gunite walls, structural steel roof trusses, porcelain enameled steel, terrazzo and plate glass front. GENERAL CONTRACTOR: Mills Construction Co., San Francisco.

CONCORD, Contra Costa County: Auto sales and service building. Fitzpatrick Chevrolet Inc., owner. $55,984. ARCHITECT: Leonard H. Ford, Walnut Creek. 1 story, 12,000 sq. ft., basalite block and frame construction, plate glass front. GENERAL CONTRACTOR: Harry C. Knight & Son, Walnut Creek.

SAN JOSE, Santa Clara County: Store building. Sprouse Reitz Co., owner. $35,139. ARCHITECT: Kress & Gibson, San Jose. 1 story, concrete block and frame construction. GENERAL CONTRACTOR: W. M. Caldwell, San Jose.

BAKERSFIELD, Kern County: Juvenile hall. County of Kern, owner. 4 units, $438,691. ARCHITECT: Wright, Metcalf & Parsons, Bakersfield. 1 story, reinforced concrete construction, metal sash, radiant heating, asphalt tile floors, air conditioning. GENERAL CONTRACTOR: Guy E. Hall, Bakersfield.

FERNDALE, Humboldt County: Exhibit building. County of Humboldt, owner. $112,994. ARCHITECT: Frank T. Georgeson, Eureka. 1 story, 100 x 150, frame construction, wood roof trusses. GENERAL CONTRACTOR: A. C. Johnson & Sons, Eureka.

PINOLE, Contra Costa County: New grammar school. Pinole-Hercules Union School District, owner. 6 classrooms, kindergarten, offices and toilet rooms. $184,987. ARCHITECT: Jack Buchter, Orinda. Frame and stucco construction. GENERAL CONTRACTOR: Carl Overaa & Co., Richmond.

SAN FRANCISCO: Mission Police Station. City and County of S. F., owner. $142,800. ARCHITECT: Ward & Bolles, San Francisco. 1 story, reinforced concrete construction. GENERAL CONTRACTOR: Martinelli Construction Co., San Francisco.

BURLINGAME, San Mateo County: Church. First Presbyterian Church, owner. Seating 600. $164,555. ARCHITECT: James H. Mitchell, San Francisco. Reinforced concrete and frame construction. GENERAL CONTRACTOR: Williams & Burrows, Burlingame.

SOUTH SAN FRANCISCO, San Mateo County: Factory building. Michel & Pfeffer Iron Works, Inc., owner. $183,500. ARCHITECT: Kump & Falk, San Francisco. 1 story, structural steel frame and galvanized corrugated steel exterior, steel sash, concrete floors. STRUCTURAL STEEL: Bethlehem Pacific Coast Steel Co., Alameda.

HIGH SCHOOL ADDITION — MERCED COUNTY: Merced Union High School District, owner, homemaking building, $71,204; Industrial Arts Building, $173,000. ARCHITECT: Frank Wynkoop & Assoc, Fresno; reinforced concrete construction. GENERAL CONTRACTOR: Graham & Jensen, Homemaking Building, Merced; Atakinson Construction Co., Industrial Arts Building, Fresno.

HIGH SCHOOL ADDITION —LIVINGSTON, MERCED COUNTY: Merced Union High School District, owner, homemaking building, industrial arts building, agricultural building, $179,000. ARCHITECT: Frank Wynkoop & Assoc., Fresno, frame & stucco construction. GENERAL CONTRACTOR: Spears Construction, Modesto.

RIVERVIEW GRAMMAR SCHOOL ADDITION - FIREBAUGH, FRESNO COUNTY: Firebaugh Joint Union School District, owner, 6 classrooms, $90,980. ARCHITECT: Fred L. Swartz, Fresno, frame & stucco construction. GENERAL CONTRACTOR: R. H. Parr & Sons, Los Angeles.

NEW GRAMMAR SCHOOL—OLIVEHURST, YUBA COUNTY: Ella Elementary School District, owner, 11 classrooms, offices & toilet rooms, $156,937. ARCHITECT: Chas. F. Dean, Sacramento, frame & stucco construction. GENERAL CONTRACTOR: McCoy & Butler, Yuba City.

APARTMENT BUILDING -SAN FRANCISCO: Metropolitan Life Insurance Company, owner, $1,777,800. ARCHITECT: Leonard Schultz, San Francisco, 2 story, 52 apartments & garages. GENERAL CONTRACTOR: Starrett Bros. San Francisco.

LINCOLN GRAMMAR SCHOOL ADDITION & REMODEL –REDWOOD CITY, SAN MATEO COUNTY: Redwood City Elementary School District, owner, nurse's room, toilet rooms & remodel classrooms, $53,884. ARCHITECT: Arthur D. Janssen, Atherton, frame & stucco construction. GENERAL CONTRACTOR: Fay H. Mirser, Redwood City.

GUEST HOUSE –SAN RAFAEL, MARIN COUNTY: Dominican College, owner, $29,-638. ARCHITECT: Leonard F. Starks, Sacramento, 1 story, frame & stucco. GENERAL CONTRACTOR: Robt. McCarthy Co., San Francisco.

FIRE HOUSE—BURLINGAME, SAN MATEO COUNTY: City of Burlingame, owner, $31,-977. ARCHITECT: Leo J. Sharps & Irving F. Brown, Burlingame, frame construction, redwood exterior, composition roof, reinforced concrete floors. GENERAL CONTRACTOR: M. J. Henry, Burlingame.

OFFICE BUILDING REMODEL SAN FRANCISCO: Phelan Improvement Co., owner; new elevator penthouse & remodel, $165,-000. ARCHITECT: Ryan & Lee, San Francisco; 8 new Electromatic Elevators, new shafts, penthouse & elevator doors. GENERAL CONTRACTOR: Swinerton & Walberg, San Francisco.

CENTRAL ELEMENTARY SCHOOL ADDITION –TRACY, SAN JOAQUIN COUNTY: Tracy Elementary School District, owner; 2 classrooms & kindergarten, $45,586. ARCHITECT: Elmore G. Ernest, Stockton; frame & stucco construction. GENERAL CONTRACTOR: Moore & Moore Const. Co.

GRAMMAR SCHOOL — SALINAS, MONTEREY COUNTY: Santa Rita Union Elementary School District, owner; 4 classrooms & toilet rooms, $74,690. ARCHITECT: Robert Stanton, Carmel; frame & Stucco construction. GENERAL CONTRACTOR: Vern R. Huck, Salinas.

BOWLING ALLEY BUILDING -DALY CITY, SAN MATEO COUNTY: Broadmoor Bowl, Inc., owner; 17 bowling alleys, $148,950. ARCHITECT; Robert Nordin, San Francisco; 2 story, 125 x 200, concrete block & frame construction. Will have cocktail lounge & restaurant. GENERAL CONTRACTOR: J. F. Millett, Jr., Daly City.

NATITORIUM BUILDING – SACRAMENTO, SACRAMENTO COUNTY: Sacramento Board of Education, owner; pool, shower & locker rooms, $184,474. ARCHITECT: Harry J. Devine, Sacramento; reinforced concrete construction, structural steel trusses, composition roof, some brick veneer, 63 x 105, reinforced concrete pool, tile scum gutter. GENERAL CONTRACTOR: Campbell Construction Co., Sacramento.

BRET HARTE GRAMMAR SCHOOL — MODESTO, STANISLAUS COUNTY: Modesto Board of Education, owner; 6 classrooms, offices & toilet rooms, kindergarten, $136,-284. ARCHITECT: Swartz & Hyberg, Fresna, frame & stucco construction. GENERAL CONTRACTOR: E. A. Hathaway & Co., San Jose.

HIGH SCHOOL ADDITION –STRATHMORE, TULARE COUNTY: Strathmore Union High School District, owner; shop & homemaking buildings, $145,490. ARCHITECT: Robt. C. Kaestner, Visalia. GENERAL CONTRAC-

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WAREHOUSE & OFFICE—SAN FRANCISCO: E. Rene Le Roy & Payne Co., owner; $70,000. ARCHITECT: Ward & Bolles, San Francisco; 1 story concrete block & structural steel frame, wood roof. GENERAL CONTRACTOR: Russell A. Cullen, Inc., San Francisco.

STORE AND OFFICE BUILDING — OAKLAND, ALAMEDA COUNTY. Thomas Ferro, owner. $75,000. ARCHITECT: John B. Anthony, Oakland. 3-story reinforced concrete and structural steel construction, steel sash, Arizona flagstone and plate glass front. GENERAL CONTRACTOR: D. W. Nicholson Corp., San Leandro.

ADMINISTRATION BUILDING ADDITION—RICHMOND, CONTRA COSTA COUNTY. Richmond Board of Education, owner. $102,882. ARCHTECT: Chas. F. Strothoff, San Francisco. Frame and stucco construction. GENERAL CONTRACTOR: R. F. Johnson & Son, El Cerrito.

NEW GRANT GRAMMAR SCHOOL — EUREKA, HUMBOLDT COUNTY. Eureka Board of Education, owner. 7 classrooms, kindergarten, all purpose room and kitchen and toilet rooms, $165,568. ARCHITECT: Masten & Hurd, San Francisco. Frame construction. GENERAL CONTRACTOR: H. J. Schmiedeskamp, San Francisco.

FACTORY AND OFFICE BUILDING—SAN LEANDRO, ALAMEDA COUNTY. Andre Paper Box Co., owner. $250,000. STRUCTURAL ENGINEER: Clarence E. Seage, San Francisco. 1-story, 100x300, reinforced concrete and frame construction, wood roof trusses. GENERAL CONTRACTOR: W. C. Tait Co., San Francisco.

NEW GENERAL HOSPITAL — SAN ANDREAS, CALAVERAS COUNTY. Mark Twain Hospital District, owner. 76 beds. $608,250. ARCHITECT: Robt. Stanton, Carmel. 1-story, frame construction, redwood exterior. 1 main hospital; 2 indigent building. GENERAL CONTRACTOR: Moore & Roberts, San Francisco.

OBSERVATORY BUILDING — MT. HAMILTON, SANTA CLARA COUNTY. University of California, owner. $638,800. STRUCTURAL ENGINEER: John Case, Los Angeles. CONSULTING ARCHITECT: Norman Low, Los Angeles. 90 feet in diameter, reinforced concrete base, structural steel frame and ¼ inch steel plate exterior fome insulation, electric and mechanical work and freight elevator, mechanical drives for 120" telescope. GENERAL CONTRACTOR: Carrico & Gautier, San Francisco.

MEDICAL RESEARCH BUILDING ADDITION NO. 2 — BERKELEY, ALAMEDA COUNTY. University of California, owner. $428,800. ARCHITECT: Blanchard & Maher, San Francisco. 2 and 4 story, reinforced concrete construction, plumbing, heating and ventilating and electric work included in general contract. GENERAL CONTRACTOR: Empire Construction Co., San Francisco.

NEW SAN LORENZO HIGH SCHOOL—SAN LORENZO, ALAMEDA COUNTY. Hayward Union High School District, owner. 4 academic buildings and boiler house. $870,375. ARCHITECT: Dragon, Schmidts & Hardman, Berkeley. Frame and stucco construction. Boiler house, reinforced concrete. GENERAL CONTRACTOR: Empire Construction Company, San Francisco.

OFFICE, WAREHOUSE AND GARAGE REMODEL—SAN FRANCISCO, American National Red Cross, owner. From auto sales building, $202,323. ARCHITECT: A. J. Horstmann, San Francisco, interior remodel. GENERAL CONTRACTOR: Swinerton & Walberg, San Francisco. PLUMBING: F. W. Spencer & Son, San Francisco. HEATING: J. Gibbs Sons, San Francisco. ELECTRIC WORK: M. Schimetschez, San Francisco.

MEDICAL RESEARCH BUILDING ADDITION NO. 2—SAN FRANCISCO. University of California, owner. $428,800. ARCHITECT: Blanchard & Maher, San Francisco. 2 and 4 story, reinforced concrete construction, plumbing, heating and ventilating and electrical work included in general contract. GENERAL CONTRACTOR: Empire Construction Co., San Francisco.

OFFICE AND WAREHOUSE BUILDING — SAN FRANCISCO. Dalziel Plumbing Supplies, owner. $106,813. STRUCTURAL ENGINEER: Ellison & King, San Francisco. 2 story and mezzanine, 58x164, reinforced concrete and frame construction, creosoted piles. GENERAL CONTRACTOR: Barrett & Hilp, San Francisco.

GRAMMAR SCHOOL ADDITION—PESCADERO, SAN MATEO COUNTY. Pescadero Elementary School District, owner. 2 classrooms, stage, folding partitions, office and toilet rooms. $58,547. ARCHITECT: Arthur B. Janssen, Atherton. Frame and stucco construction. GENERAL CONTRACTOR: Grambergu & Guisti, Half Moon Bay.

GRAMMAR SCHOOL—CARMEL VALLEY, MONTEREY COUNTY. Tularcitos Union Elementary School District, owner. 4 classrooms, office and toilet rooms. $95,735. ARCHITECT: Robert Stanton, Carmel. Frame and stucco construction. GENERAL CONTRACTOR: E. M. Carlsen, Salinas.

RESIDENCE—LOS ALTOS, SANTA CLARA COUNTY. Alex Berger, owner. 9 rooms, 3 baths, $38,000. ARCHITECT: Morgan Stedman, Palo Alto. 1 story, 3,200 sq. ft., frame and stucco construction. GENERAL CONTRACTOR: Hans Stavn, Palo Alto.

HIGH SCHOOL ADDITION — MARTINEZ, CONTRA COSTA COUNTY. Alhambra Union High School, owner. Classrooms, cafeteria, boys gym and shop building. $478,743. ARCHITECT: John Lyon Reid, San Francisco. Reinforced concrete, structural steel, frame and stucco. GENERAL CONTRACTOR: B & R Construction Co., San Francisco.

APARTMENT BUILDING — SAN MATEO, SAN MATEO COUNTY. David D. Bohannon Oriz, owner. 140, 1 and 2 room apartments. $1,500,000. ARCHITECT: Angus McSweeney, San Francisco. 11 story and basement garage, reinforced concrete construction; all metal kitchens, electric stoves and retrigerators, high speed elevators.

LUCKY MARKET ADDITION AND REMODEL—SAN MATEO, SAN MATEO COUNTY. Lucky Stores, owner. $100,000. ARCHITECT: W. P. Day & Assoc., San Francisco. 1 story, reinforced concrete construction, wood roof, porcelain enameled tower. GENERAL CONTRACTOR: Williams & Burrows, Burlingame.

OFFICE BUILDING—OAKLAND, ALAMEDA COUNTY. Hospital Service of California, owner. $540,000. ARCHITECT: Fred L. R. Confer and R. G. Willis, Oakland. STRUCTURAL ENGINEERS: Hamilton & Williges, Oakland. 3 story and basement, 74x150, structural steel frame, reinforced concrete construction, marble and plate glass front, 1 elevator. GENERAL CONTRACTOR: Swinerton & Walberg, Oakland.

APARTMENT BUILDING — SAN FRANCISCO. Richard, Theo and John Meyer, owner. 24 apartments, $100,000. ARCHITECT: H. C. Baumann, San Francisco. 3 story and basement garage, garage reinforced concrete and structural steel, balance frame and stucco construction. 1 automatic elevator. GENERAL CONTRACTOR: Theo G. Meyer & Son, San Francisco.

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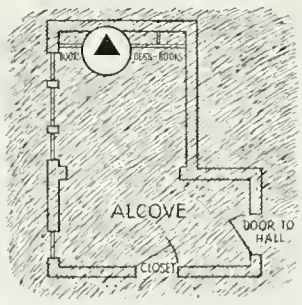

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IN THE NEWS

ARCHITECT SELECTED

Frank Wynkoop & Associates of San Francisco have been selected as architects for the new gymnasium to be built at the High School in Kings City (California), according to a recent announcement by the secretary of the King County Union High School District.

PLAN TO CONVERT RICHMOND SHIPYARD

A plan is underway by the Contra Costa Junior College District of Martinez, to acquire and convert the administration building, payroll building, and cafeteria and canteen buildings of the Richmond (California) Shipyard No. 3, into new buildings for the Contra Costa Junior College.

ANOTHER UNDERGROUND S. F. GARAGE PLAN

The Parking Authority of the City and County of San Francisco have under consideration the construction of an underground parking area and garage in the Civic Center.

Tentative plans call for the development of a project which will provide for the parking of 1992 automobiles at an estimated construction cost of $2,707,640, or an optional plan of three underground levels which will take care of the parking of some 3108 vehicles, at a construction cost of $4,069,440.

The construction of such a garage would contribute considerably to the solution of the automobile parking problem which faces the city's city hall, state building, and federal government building's area.

FIRE PREVENTION BOARD APPOINTED

Twelve of the nation's authorities on fire prevention, fire protection, and control have accepted appointment on a Board of Consellors for the Fire Technology Division of the Southwest Research Institute of Houston and San Antonio, according to an announcement by Dr. Harold Vagtborg, president.

The Division will work scientifically on reducing the toll of human lives and property loss from fire, utilizing the staff and laboratories of the Institute, and under the direction of Norman Penfold, an engineer whose special field of research include fuels, heat and combustion.

Appointed to the Board were: John H. Anderson, Chief, Los Angeles Fire Department; Col. H. S. Bennion, New York City; Capt. H. J. Burke, New York City; Ned H. Dearborn, Chicago, Ill.; J. J. Dugan, South Charleston, W. Va.; George C. Hawley, Austin, Texas; J. E. Jagger, New York City; G. M. Kintz, Dallas, Texas; Fred Shepperd, New York City; Arthur C. Kreutzer, Chicago, Ill.; Ray Wisner, Philadelphia, Pa.; and Carl Wolf, New York City.

VETERANS HOSPITAL SALT LAKE CITY

The U. S. Corps of Engineers, San Francisco district engineer, is taking bids which are to be opened about the middle of February, on the construction of a 500-bed Veteran Administration Hospital at Salt Lake City.

The buildings of reinforced concrete and brick construction will include four residential buildings as well as four hospital buildings and several auxilliary buildings, such as boiler plant, recreation, laundry, and theatre.

Plans for extensive landscaping are also included in the project.

SCHOOL BONDS ARE VOTED AT LINCOLN

Voters of the Lincoln (California) Elementary School District have approved the issuance of $50,000 in bonds for the purpose of constructing an addition to the Lincoln Grammar School. Work to be started immediately.

ARCHITECT SELECTED FOR HEALTH CENTER

Philip S. Buckingham, Architect, of Fresno (California) has been selected by the City of Fresno as the architect on a new health center building to be erected in Fresno at a cost of $400,000.

NEW PLANT OF HALDEMAN OPEN

The new 16,000 sq. ft. manufacturing plant of the Harry F. Haldeman, Inc., air conditioning and warm air manufacturing industry, was put in operation early in December with several hundred dealers, factory representatives and industry officials in attendance.

The new plant is the result of a continuous development of the Haldeman organization in southern California during the past ten years.

ANNOUNCE SEMINAR OF PRODUCT DESIGN

Lehigh University, Bethlehem, Pa., has announced the holding of a Product Design Seminar the latter part of June, in cooperation with the Society of Industrial Designers.

The Seminar offers management personnel from industry a concentrated review of the problems of product design and will include the presentation of papers by Raymond Lowey, Henry Dreyfuss, Walter Dorwin Teague and Harold Van Doren, designers.

NEW THEATRE PALO ALTO

The Western Theatres, Inc. of Palo Alto (California) will construct a new reinforced concrete theatre building containing 1400 seats and all modern equipment, according to Frederick W. Quandt, architect of the project.

PLAN EXTENSION DETENTION HOME

The State of California is planning to enlarge facilities of the Los Guelucos School for Girls at Santa Rosa by construction of a new detention building consisting of a hospital, kitchen, dining room, dormitories, laundry and also several cottages.

Cost of the project will run about $1,165,000 according to Harry A. Thomsen and A. L. Wilson, San Francisco, who are architects on the work.

NEW SUNDAY SCHOOL PLANNED FOR MODESTO

The First Christian Church of Modesto is planning the construction of a new church and Sunday school building of reinforced concrete and frame construction.

Estimated cost of the project is $200,000, according to John I. Easterly of Watsonville who is the architect.

NEW SHOPPING CENTER FOR ALAMEDA COUNTY

The architectural firm of Anderson and Simond of Oakland have announced the development of a new shopping center in Castro Valley consisting of twenty-three stores.

The project which is located in Alameda county, south of Oakland will cost some $250,000.

HOSPITAL FUNDS APPROVED

Federal and State of California funds in the amount of $647,544 have been approved for the construction of a new Central Hospital Building at the County Hospital in Modesto

Totol cost of the project which consists of a three-story reinforced concrete building, plus basement, is $971,316.

Russell G. DeLappe, Berkeley, is the architect.

NEW APARTMENT SAN FRANCISCO

The Metropoliton Life Insurance Company, New York, has applied to the City of San Francisco for a permit to construct a 2-story, 52 apartments and garages building in the Lake Merced district at an estimated cost of $1,777,800. Leonard Schultz, San Francisco is the architect.

TO BUILD APARTMENT HOUSE IN EGYPT

The Billner Vacuum Concrete Company of Philadelphia, has been granted a $2,000,000 contract for the construction of 600 modern two-to-three bedroom apartments housed in four story units in Cairo, Egypt, according to a recent announcement by Karl P. Billner, company president.

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been applied to multi-story housing abroad. The project will comprise 80 buildings to be erected on a 10 acre site, at an estimated cost of $3,300 per apartment.

HIGH SCHOOL BONDS VOTED

Voters of Red Bluff (California) recently approved issuance of $590,000 in school bonds for the construction of an addition to the Red Bluff High School.

Thomas & Evans of Oakland are the Architects.

GLENDALE REAL ESTATE BOARD

Officers of the Glendale (California) Real Estate Board elected to serve during the year 1950 include: John A. Greer, President; George H. Bentley, Vice-President; and J. W. Mathewson, treasurer.

CONCRETE ASSOCIATION ELECTS NEW OFFICERS

The Concrete Masonry Manufacturers Association of Los Angeles have elected the following officers to serve during 1950.

L. Glenn Switzer, president; David W. Eccles, vice-president; Homer C. Shirley, secretary-treasurer; and E. P. Ripley, J. A. Allen, C. D. Wailes, Jr., B. C. Iliff, Kenneth A. Frederick and Merrill E. Dastrup, directors.

ARCHITECT MOVES OFFICES

Hans G. R. Schickele, A.I.A., Architect of Berkeley (California) has moved his offices to 2220 Bancroft Way, Berkeley, according to a recent announcement.

NORTHERN CALIFORNIA SALES MANAGERS MEET

Sales managers throughout northern California gathered in San Francisco early this month to attend a clinic in Advanced Salesmanship given by Jack Lacy, national authority on the technique of successful selling.

Also appearing on the program as a speaker was Red Motley of New York, president of Parade Publications.

G. J. Ticoulat, president of the organization which comprises 175 of the leading sales managers of northern California, presided.

APPOINTED VICE PRESIDENTS

Cecil W. Farrar and F. B. Mahoney have been elected vice president and general manager of sales, and vice president and general manager of manufacturing, respectfully, of the Richmond Radiator Company.

ELECTED PRESIDENT STEEL INSTITUTE

N. R. Patterson of Tulsa, Oklahoma, was elected president of the American Institute of Steel Construction at the Institute's recent annual convention.

New directors elected to serve for 1950 included James M. Straub, Pittsburgh, Pa.; H. Buckley Dietrich, Baltimore, Md.; and Earle V. Grover of Los Angeles, California.

SOUTHWEST AIR CONDITIONING

The Southwest Air Conditioning Exposition sponsored by the American Society of Heating and Ventilating Engineers is scheduled to get underway at the State Fair Park in Dallas, Texas, January 23-27.

Purpose of the exposition is to foster and promote the expansion and development of air conditioning throughout the southwest.

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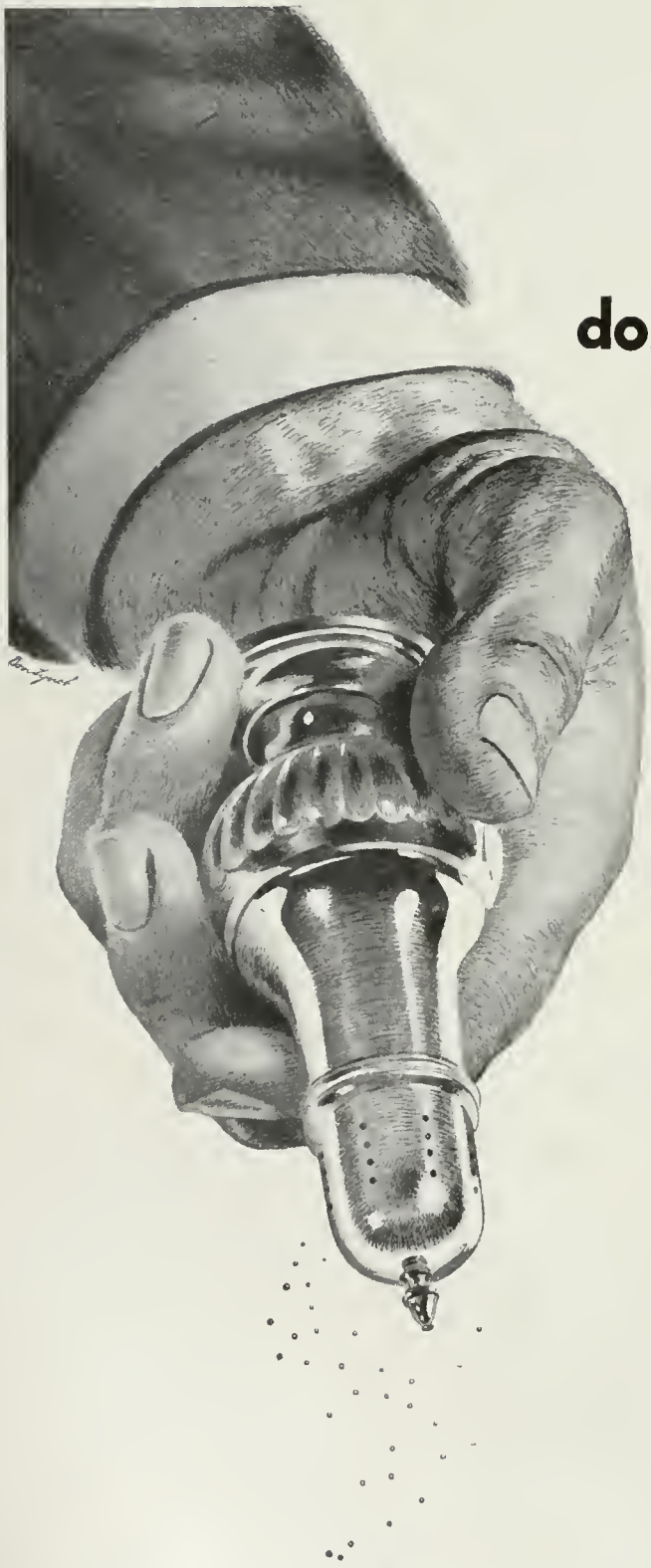

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• ARCHITECT AND ENGINEER

Vol. 180 No. 2

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COVER PICTURE

The $40-million Parklabrea Apartment House Project now under construction in Los Angeles is one of the largest architectural concrete jobs in the country. It sprawls over a 176 acre tract and will house 13,000 persons when completed.

Leonard Schultz and Associates of New York are the Architects with the firm of Gordon B. Kaufman and J. E. Stanton of Los Angeles representing them on the work.

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. EDITORIAL NOTES .

OUR HOUSING IMPROVEMENT

In spite of the strains placed on the construction industry during the past few years, the American people are better housed today than at any time in their history.

Improvement is to be found in every aspect of the housing situation. There has been an enormous addition to the housing supply. In the number of dwellings completed and occupied, and in the number of dwellings under construction, which when completed will provide comfortable living for many families.

At the same time there has been a spectacular improvement, during the past number of years, in the quality and usability of the existing supply of housing. So that far fewer families today are living under conditions that can be described as "substandard".

There has been a decrease in the average number of persons occupying a dwelling unit and in the proportion of married couples living with their families.

These changes have occurred not only in cities, but in the rural areas representing the smaller communities bordering on the larger cities, and it is of particular interest that all classes of the American population have shared in these many benefits.

* * *

In 1949 California continued to lead all other states in total value of new construction as it has every year since 1940. The $2.24 billion expenditure was nearly 12% of the U. S. total. During 1949 one out of six of the nation's new private homes was built in California, representing an expenditure of nearly $1.2 billion.

* * *

ALL THAT GLITTERS IS NOT GOLD

For several years Great Britain has been experimenting on a national scale with socialistic measures. Results secured thus far in the nationalization of industries and the provision of medical services have not been such that they should allure us into the adoption of a similar course. Financially, this socialistic state, England, and remember it is only part way in, is still not adverse to accepting support from "capitalistic America."

That an answer to national problems, and the management of economic affairs, satisfactory to all parties concerned, has not been found in this particular welfare state, may be inferred from the following quotation from a recent issue of the London Times:

> "The walls of the prison close in day by day: the area of enterprise shrinks. Day by day the ceiling of opportunity is lowered. We prisoners are charged more and more for the expense of multiplying jailers. Food and drink diminish in quantity and quality month by month. There is no incentive to bold undertakings except a heartless propaganda which urges all dogs collectively to jump the moon, while keeping chained each dog with a spring or heart in him. Socialism, as now interpreted here in England, is competition without prizes, boredom without hope, war without victory, and statistics without end."

If this is state socialism coming into bloom, we would be well advised to nip the bud in its earliest possible stages in America. 1950 is a "Political Year" in many communities; as a citizen of the United States, you have an obligation to preserve for succeeding generations the basic principles upon which our liberties and freedom are founded.

* * *

"COMPETITION is a prod that keep us continually on our toes. We are stronger because of it; we would be weaker without it.":—DuPont.

* * *

PRACTICAL PROGRESSION

Probably no subject is any more controversial in the minds of the public, as well as many individuals more technically trained, than the relative advantages and disadvantages in the liveability of ultra modern home design vs. contemporary architecture, and it is pretty well agreed by all concerned that the site and function of the structure, plus the financing, together with the personality of the owner are quite important and have much to do with the extent to which fantastic modernistic fads in architecture may be applied.

Recognition of all of these factors involving creative design are a "must" in the continued growth and public recognition of the architectural profession. Instances where "modernistic design" takes a structure out of specified financial limitations should be an extremely rare instance rather than an occasional happening. With many elements in the construction industry still in the restricted category and with labor continuing to rise in the costly bracket, renewed efforts should be made to keep "modernistic architecture" moving down the highway of public acceptance by careful observance of "budget limitations."

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NEWS AND COMMENT ON ART

ABRAHAM ROSENBERG FELLOWSHIP

The San Francisco Art Association is receiving applications for the next award of the Abraham Rosenberg Traveling Fellowship, which is given to assist artists of exceptional qualifications toward making a contribution to the culture of America through painting or sculpture.

To foster art in America, the late Abraham Rosenberg bequeathed in trust to the board of directors of the San Francisco Art Association an endowment fund, which this year will make available $2400 to an artist to further study.

Applicants must be, or have been, registered in the California School of Fine Arts for at least two regular semesters, and all applications must be received by the board prior to January 23, 1950.

M. H. DE YOUNG MEMORIAL MUSEUM

The M. H. de Young Memorial Museum in Golden Gate Park, has announced the opening of three new exhibitions and a schedule of exhibits and events for February which includes:

EXHIBITIONS: Watercolors, by William Ross Cameron. This is a new exhibit; Watercolors, Gouache, Casein. By Nicolai Hetrovo, now a resident of Carmel. As well as being a watercolorist, Hetrovo is a construction engineer who has designed and built many buildings: Oils, by Jeannette Maxfield Lewis, a resident of Fresno. 16th Century Brussels Tapestries, 1849-1949 Evening Gowns; Dolls of the Past, and Laces from the 16th to the 19th Century, from the collection of Mrs. Hans Benedict, will also be exhibited during February.

PORTLAND ART MUSEUM

A special group of fifty-one paintings from the collection of the Museum of Modern Art showing "Contemporary Trends in American Painting" is being shown at the Portland Art Museum during February.

Concurrent with this exhibit is an exhibit from the Art School; an exhibit showing San Francisco Domestic Architecture; Paintings and Sculpture by Artist Members; and an exhibition of the Popular Theatre in Japanese Prints.

SAN FRANCISCO MUSEUM OF ART

The San Francisco Museum of Art, War Memorial Building at the Civic Center, will present the following exhibitions and events during the month of February:

EXHIBITIONS: The Sixty-ninth Annual Oil, Tempera and Sculpture Exhibition of the San Francisco Art Association; Bay Region Rental Gallery of Paintings and Sculpture; California Society of Etchers; White Sands Photographic Portfolio by Brett Weston; European Art from Private Collections in the Bay Region; Form—1950; Latin American Graphic Arts; and Nineteenth Century French Prints.

EVENTS: Gallery Tours, each Tuesday and Sunday afternoon, with Miss Joan Quigley and Mrs. James Jenkins in charge; Famous Film Series each Tuesday evening; Children's Saturday Morning Art Classes conducted by Marie Sandow; Sketch Club each Friday afternoon and evening with John Humphrey directing; and Know Your World Film Series, each Saturday and Sunday afternoon.

SALOMON R. GUGGENHEIM MEMORIAL MUSEUM DESIGNED BY FRANK WRIGHT

Salomon R. Guggenheim, who passed way several months ago made necessary arrangements in his last will to go ahead during 1950 with the construction of his Museum of non-objective art on the block bounded by Fifth Avenue with Central Park, 89th and 88th Streets, New York City. J. J. Polivka, formerly Research associate in Civil Engineering, University of California, now consulting engineer with offices in Berkeley and San Francisco, has been engaged by the world famous architect Frank Lloyd Wright, do the structural analysis of the revolutionary building, the main part of which being the six story spiral ramp in reinforced concrete topped with a glass dome. The intricate design required a thorough corroboration by model tests, and the experimental stress analysis was based upon approximately 5000 measurements of deflections. Dr. Polivka was also structural engineer for the new 15 story laboratory tower of S. C. Johnson Sons Co. in Racine, Wisc., now in completion and recently the Wright-Polivka's proposal of a new Bay Bridge in San Francisco—the Butterfly-Wing Bridge in reinforced and prestressed concrete—was submitted to the Dolwig's Legislature Committee of the State of California.

What Is Non-Objective Art?

Hilla Rebay, Greens Farms, Connecticut, is considered to be one of the leading "artists of the new age" in the U. S. A. It was Hilla Rebay, who was chiefly responsible for the first Salon for Non-Objective Painting in Paris, in the Palais des Beaux Arts, opened by the President of France cn 1947, in which the American group occupied the Hall of Honour, and which group created such a sen-

sation, that it continues to be spoken of in Paris as extraordinary. On occasion of the exhibit of her paintings in the old Guggenheim Museum of Non-Objective Arts a year ago, Hilla Rebay gave the following explanation:

"No one is expected to "understand" non-objective painting. One does not "understand" beauty—one feels it! As with music, you enjoy it or you don't—the law of counterpoint with which it is created does not concern the layman. However, painting is not, like music, timebound, nor dependent on interpretation. Its rhythmic appeal is finally fixed by the master himself, and it grows on anyone who stays exposed to it. It appeals to the degree the onlooker himself is developed and has progressed in the evolution of his soul's spiritual advance. Like a flower, it does not ask for anyone's opinion and, as with flowers, different people have their different favorites.

Since paintings of earthly make-believe and faked pretense never represented truth on which the universal law is based, their material adoration brought no usefulness. The creative non-objective painting, however, develops the spiritual evolution of man based on truth and the lawful beautification of space, which brings useful order and increasing joy. Its secret is a rhythmic element which, in between the lines, forms and colors can be visionarily pereceived by some at once, by others only after living with it for different lengths of time.

These influential paintings belong to the new age, as the most useful educators in existence, as testified by teachers and people of every standard of life. However, in this art, as in music, few great composers exist. A pattern of decoration, like a chord or an arpeggio, does not produce a sonata nor a symphony. Anyone can begin trying art, but few can follow through. It is the soul that makes the great artist, not his technique."

J. J. P.

SAN FRANCISCO ART ASSOCIATION ANNOUNCES BENDER GRANTS-IN-AID

The San Francisco Art Association has announced the 1949-50 competition for the Albert M. Bender Grants-in-Aid comprising two in art and two in literature. The grants will carry a stipend of $1200, and the grants in art will be limited to the fields of painting and sculpture. Creative writing is to be interpreted in the broadest sense, save only that it is not to be research in character, but more on the order of humane letters.

The Bender Grants-in-Aid, available only to those who have resided in the Bay Area for at least two years, are made upon the basis of need as well as talent. Applicants must not be over 35 years of age.

The Fund's board of trustees, headed by Dr. Monroe E. Deutsch, has appointed the juries of award. The jury in art includes Mary Dumas, Clare Falkenstein, John Gutman, Ernest Mundt and Hamilton Wolf. The jury in literature includes Joseph Henry Jackson, Prof. James M. Cline, Prof. Daniel Dewey, and Prof. Margaret Bailey.

NATIONAL SILVERSMITHING WORKSHOP CONFERENCE

Applications for the competition for fellowships in the fourth national Silversmithing Workshop Conference for art teachers and supervisors must be made with Handy and Harman, 82 Fulton Street, New York, prior to April 1.

The conference will be held this year at the School for American Craftsmen, Institute of Technology, Rochester, N. Y., July 31 to August 25, with Reginald H. Hill, noted British silversmith, designer and teacher, conducting.

STAGE DESIGN COURSE AGAIN OFFERED

The California School of Fine Arts, 800 Chestnut Street, San Francisco, is again offering a course in Stage Design and Set Construction with classes being given on Monday and Wednesday at 7 p.m.

Arch Lauterer is instructor. He is also Director of Theater at Mills College and has recently been appointed American representative to the International Theatre Institute of Paris, as well as Director of the American University Theatre Summer Session which is to be conducted in England in July.

FOLK DANCES OF ALL NATIONS

Members of the Folk Dance Federation of California will present two performances of entirely different dances representing Folk Dances of Europe, and America and Asia on March 3 and 10 at 8 p.m. at the San Francisco Museum of Art in the War Memorial Building, Civic Center.

MILLS COLLEGE CONCERT GROUP

The Associate Council of Mills College will present the Mills College Concert Group, under the direction of Shirley Wimmer, chairman of the Dance Department, in a special dance program on Wednesday evening, March 1st at 8 p.m. at the San Francisco Museum of Art, War Memorial Building, Civic Center.

AIR SANITATION WITH ULTRAVIOLET LIGHT

By DR. W. SCHEISHEIMER

It is a frequently discussed hope that with the help of ultraviolet light the air in a room can be made free of pathological germs. This would mean not only an inhiibtion to the transmission of severe infectious diseases but also freedom of every-day evils such as the common cold which, at least in part, is caused by bacteria or an invisible virus which in turn is produced by germs.

The problem has not yet been solved entirely but observations in hospitals and sickrooms, in public gathering places such as movie-houses, theatres, churches or in barbershops, have convinced quite a few experts that air sanitation with ultraviolet light is possible and effectful and that the rate of sickness can be diminished by this method.

In a recent publication, Dr. I. Rosenstern told about his observations on the control of air-borne infections in a nursery for young infants. For the prevention of air-borne cross infections, air conditioning, germicidal lights, mechanical barriers and face masks have been in use. Air conditioning alone did not prevent the spread of cross infection of the respiratory organs. Germicidal irradiation of the upper air and air conditioning reduced the number of cross infections of that kind. Germicidal light barriers and air conditioning were efficient.

Techniques of Air Irradiation

Ultraviolet energy from artificial sources will kill air-borne bacteria, viruses and fungi. However, ultroviolet light intense enough to kill germs quickly, will also affect the face and eyes. For this reason lamps and equipment for air disinfection must be selected, installed and operated with much more care than is necessary for artificial illumination. L. J. Buttolph, one of the leading engineers of Cleveland, Ohio, in several publications has described the technique necessary for safe installation and use of ultraviolet light for air disinfection and sanitation.

Air can be disinfected of bacteria, viruses and fungi, according to his instructions, by using germicidal lamps in three ways: 1) on the side walls or ceiling of a room to irradiate the air above the 7-foot level. and sometimes on the side walls to also irradiate the floors and the air below the 30-inch level; 2) in an air duct to irradiate the air passing through it; 3) and in a room to irradiate all the air in it from fixtures mounted on the ceiling or side walls, and sometimes provided with baffles to restrict the ultraviolet to germicidal curtains or barriers.

Here is an example of the application of air irradiation in a hospital, as given by Mr. Buttolph. Germ-laden dust is comparatively harmless while it is at rest on the floor. However it becomes an important source of air contamination as soon as it is disturbed by the movement of people in a room. This germ-laden dust has long been blamed for the spread of respiratory diseases. In hospital wards and operating rooms, direct irradiation of the floor dust and lower 24-36 inches of air may be effectively done. The installation may be based on a fixed relationship between the floor area and the lamps.

Lamps and Fixtures

One 15-watt unit for each 75 to 125 square feet of floor area is suggested by Buttolph. Standard wall units inverted and mounted about 18 to 30 inches from the floor may be used in small rooms. Special 15-watt fixtures with flat wide reflectors with edges in the plane of the lamp tube and with guard rods paralleling the tube, may be mounted under hospital beds or operating tables. Fifteen-watt units are recommended in preference to one-half as many units to secure a more uniform intensity over the whole floor area. In the hospital operating room a 30-watt lamp for each 75-125 square feet may be used to secure double the ultraviolet intensities recommended for general use.

A particularly suited place for ultraviolet air disinfection is the infant ward. Hospital conditions need the highest intensity installations permitted by ceiling reflection. New installations, Buttolph says, should always be operated for at least 24 hours, at only 8 hours per day, or continuously if the room is unoccupied, after which the intensity at the infant face levels should be checked. The intensity at the infant face levels should not be over 0.1 milli-watt per square foot, or 0.1 microwatt per square centimeter limit set by the Council on Physical Medicine of the American Medical Association. If found too high, adjustment of the fixtures is possible, repainting or sizing of the ceiling, or removal of fixtures are obvious means of correction.

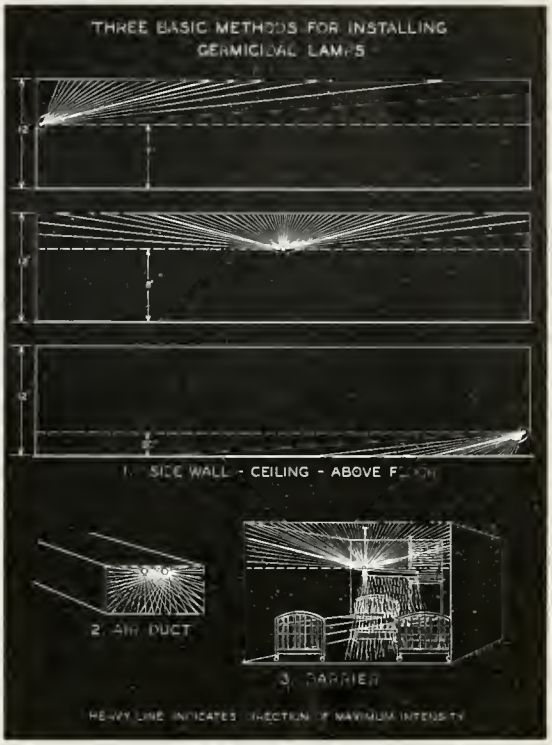
Council on Physical Medicine

This council in a study on the disinfecting effects of the Germicidal Lamp has stated that, by using a sufficient number of lamps, approximately 95 percent of the organisms which are within the lethal area of radiation are killed. Restrictions imposed by certain dangers of personal injury due to over-irradiation prevent effective ultraviolet irradiation of the principal areas in the lower part of the room. Here droplets, expelled from the mouths of occupants, might pass directly from person to person. Outside of this zone, however, there is some protection against cross infection because the air in an interior is continuously circulating. This process seems to dilute the germ concentration.

The Council accepts ultraviolet lamps for disinfecting air in hospitals, nurseries and operating rooms (relatively free from dust) in which the occupants are regimented, as practiced by the present day empirical methods of sanitation. On the other hand, the Council does not accept ultraviolet lamps for disinfecting air in schools, waiting rooms, industrial plants, barracks, assembly halls, refrigerators or other industrial applications. In the opinion of the Council the available evidence is not sufficient to warrant advertising claims that the ultraviolet radiation will eradicate infection spread by droplets, or prevent absenteeism in schools, factories and office buildings, due to infections of the respiratory tract.

Germicidal Tubes

There are well over 1000 hospitals now using germicidal tubes in nurseries, surgeries or contagious disease wards. Infants' Hospital, Boston, Mass., installed 40 tubes which resulted in a reduction of 80 percent in respiratory infections. Children's Hospital, Toronto, Canada, installed 48 germicidal tubes which resulted in a decrease of 50 percent in respiratory infections.


THREE BASIC METHODS FOR INSTALLING GERMICIDAL LAMPS
1. SIDE WALL - CEILING - ABOVE F
2. AIR DUCT
3. BARRIER
HEAVY LINE INDICATES DIRECTION OF MAXIMUM INTENSITY

Some information on Angstrom units connected with germicidal tubes shows ultraviolet wavelengths of energy centering around 2537 Angstrom units — the most effective germ-killing energy — while emitted from the sun, are absorbed by the earth's atmospehre. An Angstrom is a unit of measurement for wavelengths, it is approximately 1/250,000,000 of an inch. Some of the less potent ultraviolet wavelengths, from 2900 A to 3600 A, do reach the earth and are mildly germicidal.

For many years ultraviolet energy in its many wavelengths has been produced by the quartz mercury arc. It operates on the principle of the fluorescent lamp but the glass of the tube is clear and of a special type which passes a particular wavelength of ultraviolet. About 95 percent of this ultraviolet energy is in the region of 2537 A, the most effective germicidal energy.

With this abundant source of germicidal energy, it is possible to kill not only disease-producing airborne germs but the much more resistant spores.

NEW PUBLIC HOUSING PROJECTS WILL EMPHASIZE LIVABILITY

America's new public housing projects, to be erected for low income families starting in the spring, will emphasize good livability and the most pleasing architectural design possible under economic construction.

The American Institute of Architects recently reported that this is the objective of an agreement worked out jointly by the A.I.A., the Public Housing Administration and the National Association of Housing Officials, covering architectural services for the public housing program.

Some 130,000 units of public housing are scheduled to be built in various cities during the year under the law passed by the last session of the Congress, providing a six year 810,000 unit program.

Contracts for architectural and engineering services for the big construction program are to be let by local housing authorities putting up the projects. The general objective of the agreement is to make available to the local low rent housing programs the best architectural guidance possible.

Under the terms of the agreement, PHA has established maximum fees to be allowed for architectural services. Local housing authorities will work out contracts with architectural offices for each project.

The newly-appointed fee schedule is on a "fixed fee plus reimbursable contract" basis and was negotiated after both the National Association of Housing Officials and the A.I.A. had requested reconsideration of a fixed fee schedule announced by PHA last October.

"It is to the credit of all three participating organizations that an agreement was reached which will permit compensation for architects on a basis which will encourage good design," said Clarence B. Litchfield, architect, of New York City, chairman of the A.I.A. Fees Committee and one of the chief negotiators for the architects with the PHA.

He added that, "PHA and A.I.A. have continually agreed that a fee based on 2.5 times technical payroll is fair and equitable for housing projects. The new basis of compensation will allow the

(See page 43)

EXHIBIT OF MODERN STORE MODELS BEGINS EXTENSIVE WESTERN TOUR

The "Store Modernization Caravan," a mobile exhibit of twelve ultra-modern "open-front" stores, has begun a three-month tour of principal western cities. Scheduled to appear in 25 cities, the exhibit is sponsored by W. P. Fuller and Company.

Conceived as a service to architects, builders and merchants, the caravan was developed by Pittsburgh Plate Glass Company's department of architectural design at a cost exceeding $250,000.

The model stores are constructed to one-eighth scale with the displays being executed in minute detail. According to W. P. Fuller III, manager of the firm's glass division, the models shown can be used as basic designs by arcihtects for any locality in the U. S. A.

In describing the "open-front" stores featured, Mr. Fuller stated, "Architects throughout the nation are becoming increasingly conscious that 'display' is one of the most important words in any merchant's vocabulary. Display of the entire merchandising area on the street level is what the merchant wants. And it's what he gets in the 'open-front' type of store. His entire establishment on the street level becomes a glass enclosed show case."

Admitting that the architectural design of the twelve stores developed for national display is "toward the future," he contended that they are not radically different from the more advanced stores under construction in metropolitan centers today.

The models, as developed, are definitely not futuristic in design but they are modern. They represent the type of store which will spring up throughout the nation during the next ten years, according to the Fuller Company official.

"As planned by a great mass of American merchants, store-front modernization programs are designed primarily to lure customers into the business establishment. Mass modernziation, however, will result in solid business areas being transformed from drab and austere shopping districts into block-long centers with sparkling, jewel-like exteriors," Mr. Fuller stated.

Open-Front Trend

"Current architectural trend," he pointed out,

(See page 33)

CONCRETE FLOORS WITH LOW SHRINKAGE

By J. E. JELLICK, Manager
Portland Cement Information Bureau*

Careful selection of materials!
Minimum water in mix!
Workmanship! (Delayed troweling)
Skilled supervision!

These are the ingredients of which good floor surfaces are made! The "goodness" will be in direct proportion to the efforts expended by the architect, engineer and contractor in making certain that all four above essentials—not any one—are maintained throughout the construction of the whole job.

WORKABILITY OF CONCRETE

Concrete floors are laid in a relatively thin layer and are compacted by tamping, rolling, floating, and troweling. Therefore a stiff mixture can be used. Stiff mixtures are advantageous, as they permit less mixing water and more aggregate with a given amount of cement and prevent segregation of the materials, and insure a crackless floor.

AGGREGATE

Floor toppings for numerous installations are being specified as 1:1 or 1:2 mortar mixtures without special requirements as to the size and grading of materials. In some instances directions are given to screen the sand so as to remove all of the coarse grains. The coarser particles are removed with the mistaken belief that the fine sand will give a smoother and better floor finish.

The removal of the coarser grains makes it a much poorer material for concrete work in general and particularly so for floor toppings. The finer the sand, and the greater the percentage of extreme fines, the greater will be the shrinkage of the mortar, and therefore the greater the tendency to shrinking and cracking. Numerous laboratory tests lend emphasis to this fact.

The use of fine sand mortars for floor toppings should be discouraged. Efforts should be made to eliminate clauses in specifications recommending the sieving out of coarser particles (between ⅛ and ¼-inch) because it is precisely these coarse particles that are effective in reducing the shrinkage.

Instead of screening out the coarse particles of of sand it is desirable to increase not only the amount present but also to make these coarse particles just as large as is compatible with the thickness of the topping and ease of troweling. This is best done by the addition of roofing gravel or crushed stone ranging from ¼ to ½-inch for floor toppings averaging 1-inch in thickness.

Experience has shown that it is possible to add from 1½ to 2 volumes of this coarse aggregate to a 1:1 mortar and still obtain a mixture that will work smoothly under the trowel. A mixture proportioned 1:1:2 has from ⅓ to ½ of the shrinkage shown by a 1:1 mortar made from a fine grained sand. Tests show that even in a mix as lean as 1:5 mortar with a fine sand shrinkage will often be more than with a 1:2 mortar made of coarse sand.

While it is possible to lay a satisfactory floor topping with a 1:2 mortar mix this will not be the case when the sand contains an abundance of fine particles. When finely divided coloring matter is added to such a mortar mix the shrinkage will increase in proportion to the amount added and naturally the danger of cracking and warping will also increase.

Instead of approving finely grained mortar mixtures for floor finish every effort should be made to have specified mixtures that contain a high proportion of small gravel. The best all around mix consists of 1 bag portland cement, 1 cubic foot torpedo sand and 1½ to 2 cubic feet of pea gravel or crushed stone ¼ to ½. If the sand contains a large proportion of grains ranging from ⅛ to ¼-inch then it may be necessary to reduce somewhat the amount of added pea gravel or crushed stone.

TROWELING

The greatest fault is the presence of excessive mixing water in the finish at the time it is troweled.

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* NOTE: *With the increasing popularity of radiant heating in concrete floors and the increased demand for exposed floor surfaces much more attention is being given to mixing, placing and finishing concrete floors to avoid shrinkage cracks.*

J. E. Jellick, Manager of the Portland Cement Information Bureau, has prepared two articles for the Architect and Engineer.

The first entitled "Concrete Floors With Low Shrinkage," which stresses the importance of carefully selected aggregates, minimum mixing water, and delayed troweling, is published in this issue.

The second article entitled "The Curling of Concrete Floor Topping" will appear in the March issue. Editor.

Excessively plastic finish cannot be troweled without there being sucked up to the surface large quantities of fines suspended in a watery medium. The high water cement ratio coupled with the presence of soft impalpable inert powder, results in a soft skin or film having an extraordinary high coefficient of shrinkage and low water resistance.

Troweling is an extremely important operation and one which requires experience and skill for the best results. When the mechanical float is used the first troweling may be done immediately after floating. When floating is done by hand it is necessary to wait for a period after floating until the surface becomes fairly hard. Cement or mixtures of cement and sand should not be spread on the surface to absorb excess water nor should water be added to facilitate troweling. Final troweling should be done after the concrete is so hard that no mortar accumulates on the trowel and a ringing sound is produced as the trowel is drawn over the surface. This will polish the surface to a smooth finish.

All efforts must therefore be made to induce the contractor (1) to place his finish with as low a water cement ratio as is compatible with workability; (2) to use nothing but thoroughly washed aggregates; and (3) to delay troweling until there is no danger of drawing up excessive quantities of inert fines.

THE IMPORTANCE OF CURING

Proper treatment of the floor after it has been troweled is too often neglected. As stated previously, the concrete must be kept moist so that the cement will continue to combine chemically with the water. This curing process should be started as soon as possible. If it is delayed so that rapid evaporation takes place in the early stages, the surface may crack, craze or dust.

To prevent drying out, water for curing should be applied to the new concrete as soon as this can be done without marring the surface. It should then be kept wet or the moisture should be sealed in by covering the floor with wet burlap, waterproof paper or a membrane curing compound. The longer this curing period can be extended, the stronger, harder and more impervious will be the concrete.

SOME THINGS TO AVOID

Mortar mixes, that is, those containing sand and no coarse aggregate, should be avoided.

Overly-wet mixes and mixes containing more than 5 gal. of water per sack of cement should be avoided.

Mixes which permit water or fine material to collect on the top surface should be avoided.

Dusting on fine material to absorb excess water on the surface should be avoided.

Excessive or early troweling which brings water or a large amount of fine material to the surface should be avoided.

Early drying should be avoided.

ILLUSTRATING STEPS IN FLOOR CONSTRUCTION:—Note roughness of base slab and stiffness of concrete mix being spread with shovel and rake. Concrete is then tamped and screeded, followed by floating with mechanical floats. These operations are followed by troweling and curing. (Photo Portland Cement Association)

Foundations for the Prudential Building

Los Angeles, California

By L. T. EVANS, Foundation Engineer
Los Angeles, California*

The site of the Western Headquarters Building of the Prudential Life Insurance Company has an interesting history. The western property line of the Prudential site is separated from the eastern boundary of Hancock Park by Curson Avenue.

Hancock Park contains the well-known La Brea tar pits which have yielded a unique collection of bones of ancient animals. These tar pits were formed by the upward movement of asphalt from the underlying Tertiary soil sands. As this oil reached the surface it collected in shallow pools and penetrated the upper sand and gravel beds.

The formation at the Prudential site consists of a clay and clayey sand mantle approximately twenty feet thick. Below this covering of clayey soil is a relatively thin bed of sand which contains a very large amount of liquid asphalt. The asphalt content is sufficiently great that each grain of the sand is completely separated from the sand mass by a thick film of sticky oil. Tests made on this asphaltic sand showed that it behaved as a viscous fluid and not as a sand.

Below this upper bed of asphaltic sand is a complicated bedding of clay, asphaltic sand and asphaltic silt to a depth of forty feet. From forty feet to one hundred feet is a pool of sand and silt containing thirty-four per cent (34%) of asphalt.

The foundation investigation was divided into three phases: a preliminary study before the acquisition of the real estate, a complete strength and settlement study and a study of the flow characteristics of the viscous asphaltic sand.

It was necessary to remove the asphalt from the sands and silts before they could be classified as to grain size. This was done by repeatedly washing the material with a mixture of carbon tetrachloride and petroleum ether. A record was kept of the loss in weight of the material due to the washing and was taken to be the weight of the asphalt. As a check upon this method, samples of unwashed asphaltic materials were heated to drive off all of the oil. The amount of asphalt determined by the two methods checked very closely.

Since this firm believes that direct shear tests results are almost valueless and are definitely not dependable, all shear tests for this study were made in the triaxial chamber. These tests were run slowly and no change was made in the principal stress until all plastic flow due to the previous stress increment had practically ceased.

Consolidation and bleeding tests were made in our standard consolidometers which had been fitted with special and very porous end pieces. The stress was set up with a system of levers and lead weights since jacks or loaded springs do not maintain a constant stress in the sample.

During the time that the foundation investigation was being conducted a peculiar phenomenon manifested itself at the nearby site of another client. Liquid asphalt began to ooze out of the ground at locations which had been completely clear of any asphalt at the time of drilling the test holes for that structure. All of the test holes drilled during the study for this nearby structure failed to indicate the presence of asphalt except that found in the material designated as "asphaltic sand." This appearance of extruded asphalt indicated that as the ground was surcharged, due to the construction of a building, there could be a movement of material that was governed by the laws of fluid mechanics and not by soil mechanics. This information was presented to the Prudential Insurance Company and permission obtained from them to make a complete investigation of the behavior of the asphaltic sand as a plastic material.

An elaborate series of tests were made in the foundation engineer's laboratory to determine the influence of several factors on the tendency of the

(See page 37)

*NOTE—*This paper by Mr. L. T. Evans, foundation engineer, Los Angeles, was one of the technical discussions presented to the annual meeting of the Structural Engineers' Association of California at the Yosemite meeting.—Editor.*

SOUTHLAND TICKET OFFICE

SANTA FE RAILWAY SYSTEM
HOLLYWOOD, CALIFORNIA

H. L. GILMAN, ARCHITECT
Engineers Limited,
General Contractors

Embarking on its 28th year in Hollywood, the Santa Fe Railway recently opened its luxurious new Hollywood city ticket office at 1551 North Vine Street.

"The Santa Fe's investment in this swank setting for Hollywood passenger traffic activities is an indication of our faith in continued patronage," declared R. T. Anderson, general passenger traffic manager for the system who attended the opening together with C. C. Thompson, passenger traffic manager at Los Angeles, and W. P. Riggs, general agent at Hollywood.

Designed by Santa Fe architect, H. L. Gilman of Los Angeles, and his assistant, B. A. Teal, Jr., the new office contains many features suggestive of the luxury and comfort embodied in the railroad's transcontinental streamliners, The Super Chief, The Chief and El Capitan.

Stainless steel, plate glass, fine woodwork and colorful Indian decorations have been attractively combined to achieve this effect.

The office has a full plate glass front set back five feet from the property line and flanked on either side by a deep wall of tan ruffle brick. Center pier of the structure is in the same type brick with a lighted leaded-glass Santa Fe emblem inset.

The front door is of tempered plate glass trimmed in stainless steel, and a projecting canopy of stainless steel further enhances the street facade. The sidewalk in front of the building is colorful terrazzo impregnated with alundum particles for a non-skid surface. A 45-foot neon sign mounted on the south end of the building gives prominent identification to the site.

Areas on either side of the door and across the entire room inside the glass front are planted in luxurious tropical foliage.

Interior features include a stepped ceiling acoustically treated with travertine textured mineral tile, pierced by outlets for recessed lighting and for air and heat conditioning.

Many-sided supporting columns are covered with rich red Canadian birch. This colorful wood also is used in the free flowing, modern sales counter which separates the work area from the public lounge.

Seating provided in the public lounge consists of comfortable cantilevered divans upholstered with chartreuse leather. Hand loomed gray-green drapes and rich oil paintings of the Indian Southwest in silver-leafed frames lend added color to the surroundings. Flooring is terrazzo, black and white marble aggregate set in green cement.

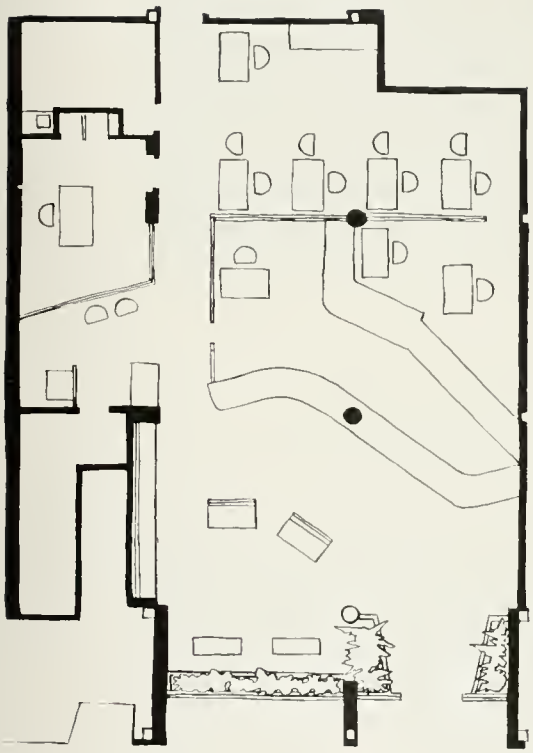
The working area in the rear is separated from the lounge by a low birch screen and railing, supported and complemented by the use of stainless steel tubing. Enclosing walls of a private office are similar in treatment, using a unique design of posts of stainless steel to support the wood panels. Doors are of inlaid birch, and office furniture is custom-made of the same type wood.

A taupe carpet covers the floor of the private office, while flooring of the working area consists of marbelized green asphalt tile.

Novel recessed display windows in the side walls outside the office represent a new approach in advertising. These windows, trimmed in stainless steel, contain scale models of outstanding mechanical features of two popular Santa Fe trains —The Super Chief and El Capitan.

The window adjacent to the entrance presents a model of modern Pullman car trucks, showing rubber cushions, side sway stabilizers and other mecanical innovations responsible for smoother riding.

"El Capitan for economy travel" is the theme of the other window, which contains a scale model of the latest Ridemaster seat.



ABOVE: Illustration shows modern free flowing ticket counter of Canadian red birch-wood; colorful Indian oil paintings are shown on the walls, and the plate glass and stainless steel front may also be noted.

FLOOR PLAN:—Designed for service.

BELOW:—Interior view showing public lounge with comfortable cantilevered seats covered in chartreuse leather. Flooring is colored terrazzo.

Photos by MERGE STUDIOS

GENERAL VIEW OF THE LAGUNA BEACH AND TENNIS CLUB

LAGUNA BEACH and TENNIS CLUB

LAGUNA BEACH, CALIFORNIA

PAUL R. WILLIAMS, A.I.A.
S. QUINCY JONES, A.I.A.
ASSOCIATE ARCHITECTS
Los Angeles, California

LEE BERING, Owner

CABANA

View to the ocean

Custom built furniture, designed especially for The Laguna Beach and Tennis Club by Maurice Martine.

Sliding glass curtains cover floor to ceiling doors and windows.

DINING ROOM

Spacious Dining Room area includes an out-door patio where dancing is enjoyed nightly. View of adjacent mountains is enjoyed, as well as delicious foods. Facilities provide for serving 200 persons at one time.

Photographs by I. Mull

Mr. and Mrs. Duane Bush Residence

Hillsborough, California

This is a one story house built around three beautiful specimen trees, and arranged in such a way to provide a patio with a southern exposure.

The feature is the outdoor living room, facing on the patio. It is arranged with a glass wall that permits the afternoon sun to shine through obscure glass giving protection from the prevailing winds.

This plan is an example of a very compact type of one story house that provides perfect circulation and privacy for the owners.

ANGUS McSWEENEY, A.I.A. Architect

WILFRED MAY, Builder

Dean Stone & Hugo Steccati, Photographers

CONSTRUCTION:

Of frame construction, the home rests on a concrete foundation.

The exterior is of stucco with a brush coat finish.

Shingle roof.

Wood door and window frames, with wood-copper screens fitted to windows.

Porches are colored cement; steps and terraces are also colored in harmony with surroundings.

Chimney and fireplace are of brick.

Fencing is of brick.

HILLSBOROUGH HOME . . .

INTERIOR:

Floors are of wood with carpet coverings.

Vertical grain Oregon Pine interior woodwork.

Incandescent light fixtures.

Forced air gas heating.

KITCHEN:

Enameled iron sink.
Gas range.
Electric refrigeratar
Wood cabinets
Linoleum floor covering.
Day and night automatic hot water heater.

TILE: Bathroom and Walls.

A CHURCH BUILDING
for
The Chinese Baptist Church

PORTLAND, OREGON

Leonard Delano, Photo

CHINESE BAPTIST CHURCH . . .

"CHINESE BAPTIST CHURCH" sign which appears on the corner of the building is mounted an o brick background and extends from top of wall base to top of building.

J. D. ANNAND
and
R. D. KENNEDY

Architects and Engineers

PORTLAND

CLOSE-UP of main entrance showing detail of door and windows.

. . . CHINESE BAPTIST CHURCH

The Chinese Baptist Church recently constructed in Portland, Oregon, represents a rather new and unique design in ecclesiastical architecture on the West Coast, as the neat exterior appearance combines many architectural details commonly found in today's commercial and residential construction. On the other hand any attempt to incorporate the usual stately spire or church steeple has been entirely eliminated.

The building was completely designed by Wai Paak Lei, Chief Designer of the firm of ANNAND & KENNEDY, Architects and Engineers of Portland. Lei is a graduate of the University of Michigan and a native of Shanghai, China.

Lei was given full autonomy by the Architect and Church officials in the design of the Church building and particularly adapted the lay-out and general utility use of the structure to the site.

A full height brick end-wall serves as a solid base for a large sign which extends from a four-angle brick base near ground level to the top of the building. The low swung Western style, with gentle sloping roofs that extend well past the side walls to afford light-glare and storm protection to the windows; the somewhat modernistic entrance-way of double doors and matching window glass

THE NAVE has rough exposed overhead beams with board ceiling from which light fixtures are suspended. The altar end of the Nave is an exposed brick wall; sidewalls are knotty pine with large windows near ceiling to permit maximum in natural lighting during daytime. Floors are asphalt tile, and pews have been designed to conform to general interior motif.

Roy H. Wolford, Photo

design, all combine to lend a harmonious general overall appearance to the building so that it blends into the atmosphere of the surrounding residential part of the City.

The main door-way is somewhat protected by an overhanging roof and extended eaves overhang windows in the same area.

The structure has a concrete slab floor covered with asphalt tile, and the interiors are finished in attractive knotty pine walls. The altar end of the Nave is the brick well previously mentioned. Provision for maximum daylight is obtained through large windows at the high side of the knotty pine wall, while special suspended lighting fixtures augment the daytime lighting, and provide all lighting at night.

Some brick trim is used on the exterior of the building and the rest of the exterior finish is of 1" by 10" V-rustic siding.

The design provided for a built-up roof that has been covered with asbestos felt on the outer side, however, in the Nave the rough exposed boards together with exposed beams from the ceiling for the interior.

The heating system is of hot air type.

REAR-SIDE View showing gentle sloping roof which extends sufficiently past side of building to form light and storm protection for horizontally designed windows. Exterior finish is 1" by 10" V-rustic siding.

Leonard Delano, Photo

EXPOSURE TO DAMAGE BY RUST IS RIFE IN SUCH A BUILDING AS THIS

RUST—THE DESTROYER

By ROGERS CLARK

Losses to construction properties, metallic facilities and equipment, whether subterannean or above ground have not only been a source of vast losses over the years but also a matter for close studies in the field of prevention. And, it is a well known fact that these losses cannot be counted only in dollars, through the corrosive depreciation of the equipment and property but also in safety and slowdown factors. And, although it is not easy to estimate these annual losses with any exactitude, there is some expert opinion available which provides a sort of yardstick for the contractor.

Quoting K. G. Compton, Finish and Corrosion Engineer, Bell Telephone Laboratories, an authority on this subject:

"The estimated cost of corrosion (in the world) of upwards of ten billion dollars a year would be multiplied tenfold were it not for the use of protective coatings. In this country alone, the annual cost of raw materials for use in such protective coatings exceeds five hundred million dollars. The labor cost for the application of protective coatings is several times the raw materials cost, so, it is evident that the proper selection and evaluation of protective coatings assumes a role of considerable importance to the economy of the construction field and the whole country's vital activities."

From time to time the contractor feels it of first importance to consider the newest thoughts on this subject of resisting corrosion and the progress that is being made along lines of prevention.

Of course, the processes of corrosion vary with climatic, local conditions, surface conditions, materials, in this and many other industries and fields of activity. Yet, in general, the war against the monster R-U-S-T is being scientificially waged in the general interests of human activity.

Let us consider here some interesting facts.

It has been held by authorities that, by a con-

servative estimate, loss through rust (of iron and steel, and in an overall sense) requires the replacement of about two per cent each year of the entire tonnage of these two metals now in service. It will thus be seen that 15 to 20 millions of tons of iron and steel are "lost" annually in the United States in this way. This fact, it will be seen by those responsible for upkeep of equipment and machinery, places a high cost on the use of these metals.

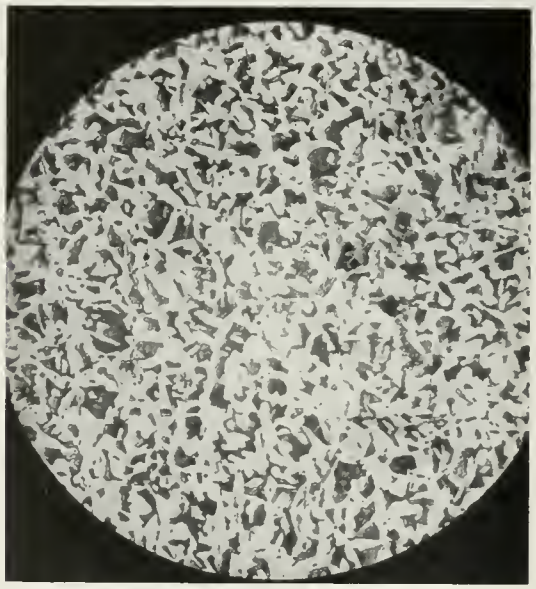
The whole subject as already touched on, while dealing with a fundamental principle is complicated over our wide industrial, agricultural and transport field by the degree of deleterious effects on these metals by such varying elements as weather, compress, acids, contacts, degree of exposure, time element, and so on.

It has been repeatedly pointed out by experienced engineers that the potential losses through rust and corrosion in any activity making important uses of metals indicate the need or "insurance" against them just as insurance is universally assumed against fire. It may also be said that great strides have been made in the last generation looking to the improvement of methods and facilities to prevent and reduce rust.

Meanwhile, investigatory work goes forward.

The National Association of Corrosion Engineers, for instance, has set up a technical committee the objective of which is to collect specific information about the economic effects of rust. The report of this committee, it is said, carries much farther along the research work which has previously been done in this field.

Coming down to the concrete, it may be said, and quoting Norman E. Hamner, Editor, Corrosion Magazine: "The problem of mitigating corrosion seems to be one of preventing materials from returning to the state in which they were found **before** fabrication. At best this can be only partially successful."



Corroded Steel Surface.
Photo Courtesy "Rust-Oleum"

It has been pointed out that one of the things which has stood in the way of awakening interest in corrosion and its destructive powers, is the fact that for the most part its very action is **insidious.**

As Mr. Hamner has said, further:

"The more spectacular aspects in which large structures, machinery or equipment show the ravages of their environment, may be the most striking but they are not, necessarily, the most important from the standpoint of economy."

Nearly all users of machinery, and equipment and facilities have at least some of it exposed to air and weather, while part of it must fight the war for survival against rust underground. The annual total loss to America due to repair and replacement of **underground** structures plus the cost of lost commodities, lost income and contingent losses

RUST—THE DESTROYER

By C. P. LARRABEE

(Carnegie Illinois Steel Corporation Research Laboratories) U. S. Steel Corporation Subsidiary

The atmospheric corrosion rates of identical specimens of iron vary tremendously throughout the world. The variables which are most responsible for these great differences are length of time the surface is moist and the amount and nature of atmospheric contaminants, of which sulphur dioxide and sodium chloride are the most common and potent. Under similar conditions of exposure at one location, the atmospheric corrosion rates depend mainly upon composition of the steel and not upon method of manufacture.

Prof. C. P. LARRABEE

The rate of atmospheric corrosion is dependent upon: (1) The length of time moisture is in contact with the surface, (2) The extent of pollution of the atmosphere, and (3) The chemical composition of the iron and steel. Certain alloying elements promote the formation of a more dense, adherent and, hence, protective rust, which retards further attack. Thus steel containing 0.1-0.2 per cent copper has its atmospheric corrosion resistance increased from 1.5 to 4 times depending upon the location. Similarly phosphorus itself (over 0.05 per cent) has a beneficial effect but it is especially noticeable in the presence of copper.

caused by underground corrosion is estimated to be around $1,000,000,000.

In considering the advances made in efficiency and effectiveness of various protective methods and techniques during the past twenty-five years, perhaps that involving processed fish oil (with pigment) has been the most outstanding.

The discovery of this raw product as a preventive and protective for corrosion goes back some 25 years—the result of the experience of a sea captain who noted the ruthlessness with which rust ate into his ship's metal surfaces and parts. He also recognized the fact that fish oil tended to prevent and eliminate the affects of this rust, and the experimentation that followed established the fish-oil basis preventive in the forefront of the "war" against metal property deterioration.

Other basic agents, as well as other methods of combatting deterioration of metals through rust and corrosion, such as red lead, zinc chromate and crude, and finally, deordorized fish oil which now comes in a wide range of colors and special purpose coatings have marked these advances most clearly, and, the successful deodorization of fish oil furnishes what is perhaps the most interesting and important of these anti-rust developments.

Since the earliest investigations of corrision, dating back nearly a century, progress has been made along two principal lines toward increasing the resistance of metals to the destroyer. One line of research has been directed toward the development of iron alloys which offer greater resistance to corrosion than the metal in its usual commercial state. Nickel and chromium alloys are the best known and most widely used in industrial service, either separately or together. Forming the bases of the rustless iron and stainless steel groups, they represent the best efforts to combat corrosion by composition. However, the relatively high cost of alloy metals removes them from serious consideration, except for decorative purposes, in the average applications to structural use.

To withstand severe conditions, copper-bearing steel is often used, and aluminum is coming into favor for window frames and sash. However wide the use of these corrosion-resisting metals, there remains a large tonnage of commercial and transport iron and steel that must be guarded against disintegration by protective coatings. And, to this end, is the other line of research directed. Here, the problem is to preserve existing equipment and structures. Painting is successful if the surfaces are properly prepared by the removal of mill scale, rust dirt and grease to receive the priming coat, consisting usually of linseed oil as the vehicle for a pigment such as red lead, iron and zinc oxides, or lead and zink chromates. A handicap is the heavy expense imposed by the cleaning operation. In the search for a priming coat that could be applied directly over the rusted surface, industrial chemists found that pre-oxidized fish oil offers a satisfactory solution to the problem.

Such a product has been developed, and has been used rather widely in spite of certain objectionable characteristics, such as slow drying, "tacky" surface, and a persistent ordor. Along this same line, however, a new product has been perfected that has been in use long enough to warrant consideration as a new ally in the battle against rust.

Years of research were necessary to bring the fish-oil coating to its present efficiency, because it was, of course, necessary to develop a process by which the objectionable fish oil odor could be purged from the oil itself, and to maintain constant control of drying. It was finally made to dry to touch within a period of four to eight hours, and to be applicable to a surface **already** rusty.

While the formula is not known, it has been determined that it contains a high percentage of fish oil. Treated to remove the odor, and pre-oxodized to hasten drying, the oil still retains its rust inhibiting characteristics. It may be applied at any temperature above forty-five degrees Fahrenheit, dries readily, and is reported to leave a firm elastic surface that will take any conventional paint.

An additional feature of importance is its ability to carry pigment in suspension, enabling this product to function as a final coat under conditions that do not require a special finishing coat. As an efficiency vehicle, it successfully passes the requirements of the aluminum powder and paste manufacturers. Uses for which this product has been favorably tested are the protection of outdoor and indoor metal construction, shop and field costs for structural steel, and tank painting with or without pigment or aluminum flakes.

Another advantage of the fish oil base coating is said to be its peculiar ability to penetrate the pores of the metal and carry along the pigment to the clean metal under-surface; that it expells corrosive elements which cause rust deterioration, and that the oil and pigment merge the rust into the film of the coating. Further, that the result of all this is a dense, air tight rust prohibitive coating which will stop and prevent any further rust.

In order to bring to bear the protective powers of fish oil to each type of corrosion, it has been necessary to combine the base oil with many pigments to produce coatings in various color to meet the needs of our transportation, agricultural, and industrial operations in varying utility and climatic requirements.

We have only slowly come to realize to what

(See page 33)

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ACID BRICK

ACID-PROOF JOINTING COMPOUNDS

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STRAN-STEEL FRAMING

RESTORATION OF THE HOUSE OF COMMONS, LONDON

Considerable attention is developing among architectural groups in England relative to the restoration of the British House of Commons which was bombed and partially destroyed in 1941.

Architect Charles Cressey of San Francisco calls attention to a recent article appearing in the Overseas Daily Mail pertaining to the subject of "acoustics."

"Scientists of the National Physical Laboratory at Teddington have been called in for advice on acoustics.

"They have recommended that the wooden roof be perforated with thousands of pinholes so that members can be better heard. These holes, it is said, will absorb sound and prevent echo."

PC BUILDING OFFICIALS MEET

The February meeting of the central district of the Pacific Coast Building Officials conference meeting in San Francisco heard a general report and discussion of building code problems. President A. W. Russell presided at the meeting.

CALIFORNIA COUNCIL OF ARCHITECTS ELECT

The California Council of Architects meeting in

Santa Barbara recently, elected Frank V. Mayo of Stockton President for the ensuing year, succeeding Adrian Wilson of Los Angeles.

Other officers included James H. Henderson, Oakland, secretary; Albert Martin, Jr., Los Angeles, vice president.

Mayo has been active in A.I.A. activities throughout California and was one of the charter members in organizing the Central Valley Chapter of the A.I.A.

ARCHITECTS NAMED FOR U. C. IMPROVEMENTS

Architects have been named for minor improvements in agricultural facilities on three campuses of the University of California, it is announced by President Robert G. Sproul.

Barravetto and Thomas of Sacramento will design the buildings on the Wolfskill Ezperimental farm at Winters, at the Napa Field Station, and the animal husbandry barns on the Davis campus.

Graham Latta of Los Angeles was named to design the Plant Breeding Greenhouse and the Soils and Plant Nutrition Greenhouse on the Riverside campus.

Frank Hope of San Diego was appointed architect for the addition to the machinery shed and the duplex cottage and dormitory structure at Meloland, Imperial County.

A.I.A. HONOR AWARDS

San Francisco Bay Area architects won a larger share of the A.I.A. national honor awards for 1949 than any other section in the nation, and at a recent awards dinner of the Northern California Chapter, A.I.A., with Donald Beach Kirby presiding, John Bakewell, Jr., fellow of the A.I.A., awarded certificates to the following:

First prize for residences, Fred Langhorst; award of merit to Wurster, Bernhardi & Emmons. Second prize for best school, John Lyon Reid, the First and third prize in the school classification went to California architects.

Principal speaker of the evening was John Varda who spoke on "From Pericles to Plastics."

A.I.A. COMMITTEE ON URBAN HOUSING AND PLANNING MEET

A meeting of the A.I.A. Committee on Urban Planning and Housing was held early in February in St. Louis, Mo., as a part of a national program of conferences of architects on "Public Housing," according to Percy C. Smith, New York, chairman of the Committee.

The purpose of the conference is to define the responsibilities of the architectural profession and communities toward making the public housing program a success, and a thorough study of the Housing Act of 1949 is being made.

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WITH THE ENGINEERS

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Structural Engineers Association of Central California
William H. Petersen, President; Walter S. Wassum, Vice President; O. T. Illerich, Sec. Treas.; Ernest D. Francis, M. A. Ewing, and Arthur A. Sauer, directors. Office O. T. Illerich, c/o Div. of Arch., Sacramento.

American Society of C. E.
San Francisco Section
A. W. Earl, President; G. B. Woodruff, Vice President; C. T. Wiskocil, Vice President; R. D. Dewell, Secretary-Treasurer. Secretary's Office, 604 Mission Street, San Francisco.

Structural Engineers Association of Southern California
E. C. Hillman, Jr., President; Donald F. Shugart, Vice President; Robert J. Short, Secretary-Treasurer. Directors: Charles M. Herd, John Minasian, Harry Bolin, John Case and Lewis Osborne. Office, 202 Architects Bldg., Los Angeles 13.

Puget Sound Engineering Council (Washington)
R. E. Kister, A. I. E. E., Chairman; E. R. McMillan, A. S. C. E., Vice Chairman; L. B. Cooper, A. S. M. E., Secretary; A. E. Nickerson, I. E. S., Treasurer. Offices, L. B. Cooper, c/o University of Washington, Seattle 5, Washington.

ENGINEER SPEAKER

Dr. Howard E. Fritz, vice president in charge of research of The B. F. Goodrich Company, recently addressed members of the Society of Plastics Engineers, Cleveland, Ohio, on the subject of "pure research" or "the right to think."

ELECTED PRESIDENT OF THE UNITED ENGINEERING TRUSTEES

Edward E. Meagher, Treasurer of the Texas Gulf Sulphur Company of New York, has been elected president of Engineering Trustees, Inc. for 1950, according to an announcement by John H. R. Arms, secretary.

United Engineering Trustees, Inc. is a corporation set up jointly by the four national engineering Founder Society to promote the advancement of engineering arts and sciences in all their branches.

Other officers elected included: Irving V. A. Huie (ASCE), president of the Board of Water Supply, New York, James F. Fairman (AIEE), vice-president of Consolidated Edison Company of New York, as vice-presidents; Kurt W. Jappe (ASME), retired Director of Purchases, Hercules Powder Co., Wilmington, Del., and treasurer of The American Society of Mechanical Engineers, as treasurer; James L. Head (AIME), Department of Mines, Chile Exploration Co., New York, as assistant treasurer. John H. R. Arms (AIME, ASME), was re-elected as secretary.

Colonel William N. Carey, secretary of the American Society of Civil Engineers, will head the Real Estate Committee, which includes Messrs. James L. Head, Warner Seely, secretary, Warner and Swasey Co., Cleveland, Ohio, and A. G. Oshler, editor, Simmons-Boardman Publishing Corporation.

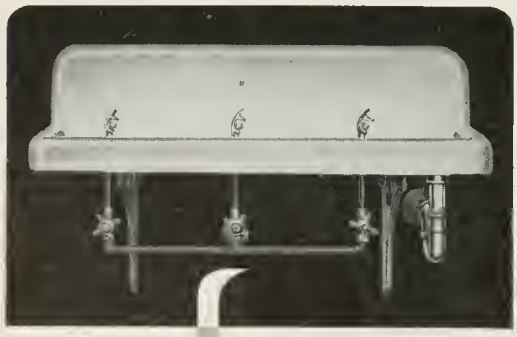
George W. Burpee (ASCE), consulting engineer, New York, will serve as chairman of the Finance Committee. Other members will be Messrs. K. W. Jappe, James L. Head, R. F. Gagg, president, Air Associates, Inc., Teterboro, New Jersey, and a former vice-president of The American Society of Mechanical Engineers, and D. A. Quarles (AIEE), vice-president, Bell Telephone Laboratories, Inc., New York.

STRUCTURAL ENGINEERS ASSOCIATION OF NORTHERN CALIFORNIA

Dr. Hayden Gordon, Senior Mechanical Engineer of the University of California Radiation Laboratory, Berkeley, was the principal speaker at the February meeting of the Structural Engineers Association of Northern California in San Francisco.

Dr. Gordon's subject was "Developments in Nuclear Accelerators at the U. C. Radiation Laboratory."

Induction of new officers for the ensuing year



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saw Arthur W. Anderson take over the President's gavel from Jesse Rosenwald who expressed gratitude and appreciation for the cooperation given Association members during the past year.

* * *

A business office for the Association has been established at 417 Market Street, San Francisco, where William W. Brewer, secretary, may be located.

NEW MEMBER: Hugh P. O'Reilly.

STRUCTURAL ENGINEERS ASSOCIATION OF CALIFORNIA

The first meeting of the Structural Engineers Association of California for 1950 was held early in February in Los Angeles.

John Blume, Mark Falk, and Jesse Rosenwald were in attendance representing the SEANC.

U. C. EXTENSION ENGINEER STAFF APPOINTMENTS MADE

Appointment of seventeen new members to the engineering staff of University of California Extension, Los Angeles, has been made by L. M. K. Boelter, Dean of the U. C. L. A. College of Engineering and head of Engineering Extension.

Appointments include Michael V. Smirnoff, Wayne W. Akey, John W. Oehrli, John S. Rinehart, Mortimer J. Lowy, Charles P. Morgan, Donald P. Loye, Eugene L. Hunsaker, Phillip O'Brien, Albert L. Stanly, Gordon N. Scott, James M. Lackey, Eugene G. Steinhof, Robert A. Trumpis, Ralph B. Wood, Frank Knemeyer, and Edward S. Feldman.

The northern California program includes meetings in Berkeley, Oakland, San Francisco, Stockton, Fresno, Sacramento, San Jose, and Vallejo with experts from industries in the various areas and members of the University faculty serving as instructors.

CALIFORNIA CONSULTING ENGINEER SELECTED ON NEW YORK PROJECT

J. J. Polivka, consulting engineer of Berkeley, has been selected to investigate the possibility of cutting costs in the construction of the new pier No. 57 in the North River, New York City, by alternate design in prestressed concrete.

The new pier will cost an estimated $6,000,000 to construct.

STRUCTURAL ENGINEERS ASSOCIATION OF CENTRAL CALIFORNIA

The Structural Engineers Association of Central California has become active with meetings being held the first Monday of each month in the California State Public Works Building, Sacramento, California.

William H. Petersen of the Division of Architecture, State of California, Sacramento, is the president.

STRUCTURAL ENGINEERS OF SOUTHERN CALIFORNIA

Clayton M. Baldwin, A.I.A., Associate Professor of Architecture, University of Southern California, was the principal speaker at the February meeting in Los Angeles, speaking on the subject "Some Concepts of an Architectural Education."

Prof. Baldwin has been guiding the Architectural students of the University of Southern California for the past thirty years and the engineers were treated to some interesting sidelights of the architectural profession. The discussion was accompanied by illustrated lantern slides.

* * *

The Committee on Professional Fees has been appointed by President Hillman.

* * *

NEW MEMBERS: Thomas Allen, Jr. and Chas. S. Howe, Jr., Associate Members.

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PRODUCER'S COUNCIL PAGE

The National Organization of Manufacturers of Quality Building Materials and Equipment affiliated with THE AMERICAN INSTITUTE OF ARCHITECTS

President, George E. Conley, Johns-Manville Sales Corp., 116 New Montgomery Street
Vice-President, A. J. MacJennett, Mueller Brass Company, 475 Ninth Street
Secretary, Art Staat, Natural Gas Equipment Inc., 1150 Folsom Street
Treasurer, Fred A. Figone, Otis Elevator Co., 1 Beach Street

Edited by J. Wilson Peele, LEATHAM & PEELE BUILDING PRODUCTS
Don W. Lyon, LIBBY-OWENS-FORD GLASS CO.

AT THE SPEAKERS TABLE (Left to Right) Don Kirby, Pres. No. Cal. Chapter A.I.A.; A. Noughton Lane, National 1st Vice-President Producers Council, Speaker (V-P & Sales Manager, Metal Weatherstrip Co.); Don W. Lyon, Past-Pres. Producers Council (Libby-Owens-Ford Glass Co.); George E. Conley, Pres. Producers Council (Johns-Manville Sales Corp'n.); A. J. MacJennett, V-P (Mueller Brass Co.); Fred A. Figone, Treas. (Otis Elevator Co.); INTRODUCTION OF PRODUCERS COUNCIL OFFICERS FOR 1950.

Highlighted by an inspiring talk from A. Naughton Lane, National 1st Vice-President of the Council and General Sales Manager of the Monarch Metal Weatherstrip Co., the 1950 slate of officers was inducted at a dinner meeting held at St. Julien's Restaurant on January 23. Mr. Lane pointed up briefly the background of the relationship that exists between the Council and the American Institute of Architects. Of particular interest to Chapter members present were Lane's highly complimentary remarks concerning the accomplishments of the San Francisco Chapter. He remarked at one point that "the national organization, as well as its many local chapters, could learn much from a study of the operations of this (San Francisco) Chapter." Mr. Lane's remarks and his presence were especially appreciated because he had just completed a series of four operations to relieve congestion in one ear.

Following a resumé of the Chapter's 1949 accomplishments given by Don W. Lyon, retiring President, the program was taken over by George E. Conley, Johns-Manville Sales Corp., the new President. George introduced, and called for remarks from, the A.I.A. members who were guests of the Council and who represented the various Architectural organizations in the Bay Area. Also commenting on the progress made by the Council were the past chapter presidents as well as President George's new officers: Al MacJennett, V. P., Mueller Brass Co.; Art Staat, Secretary, Natural Gas Equipment Co.; and Fred Figone, Treasurer, Otis Elevator Co.

Headed by James Mitchell, Regional Director of the A.I.A., who regaled the gathering with his "seagull" story, the guest list included Donald Beach Kirby, Wendell Spackman, Fred Reimers, Andy Haas, John Balles, Ralph Pollack, Bolton White and W. Roland Gibbs.

USE QUALITY PRODUCTS — MANUFACTURERS OF QUALITY BUILDING PRODUCTS — THE PRODUCERS' COUNCIL — CONSULT AN ARCHITECT

Exhibit of Modern Store Models

(From page 10)

"is toward great expanses of glass walls giving an 'open-front' effect to street level shops. Designed to expose the establishment's interior to the passing potential customer, the new trend will compel restyling of entire street level merchandising areas.

"In reality, the entire floor visible to the street becomes part of the window display area. For most classes of retail shops, limited, block-off window display areas are becoming as outdated as the horse and buggy era during which they were installed.

"Especially in smaller towns and suburban communities, business districts have usually grown in a helter-skelter way. A major face-lifting program will put these smaller shopping areas in a stronger competitive position," Mr. Fuller stated.

The models include a tavern, pharmacy, women's apparel store, jewelry store, food market, theatre, restaurant, bakery, hardware store, shoe shop, floral shop and men's apparel shop.

Perhaps the costliest "service" promotion ever placed on tour, the caravan has been exhibited to architects, builders and architectural schools and civic organizations in the east and mid-west prior to its current Pacific Coast tour.

RUST—The Destroyer

(From page 27)

extent corrosion eats into profits and raises costs, especially in connection with the all-important matter of replacement of equipment, facilities and machinery. For a long time we thought we had to accept rust—and its trail of destruction—as a natural hazard—something like depreciation through every-day use. And, while the most modern and progressive methods are applied to general equipment and machinery upkeep, there is a surprisingly large percentage of instances where the rust factor is minimized or even ignored.

No amortization calculation is reliable which does not take into careful consideration: (a) rate of depreciation through corrosion (b) measures to reduce or prevent rate of deterioration through rust and (c) cost of such preventative measures—as calculated against such loss.

EMPORIUM DEPARTMENT STORE TO EXPAND

The Emporium Department Store of San Francisco has announced plans to erect a 250,000 sq. ft. branch store building in Stonestown, one of San Francisco's new community development projects in the Lake Merced district.

The building will be reinforced concrete construction, three stories in height, according to Wurdeman & Becket, architects of Los Angeles.

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NORTHERN CALFORNIA ELECTRICAL BUREAU

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HEADLINE NEWS & VIEWS

By E. H. W.

NEW cast iron which, unlike the ordinary cast iron, is not brittle but can be bent and twisted is now available to the construction industry. The International Nickel Company was recently granted patents on such a material.

* * *

"MORTGAGE money for new building operations will be plentiful in coming months", Earl B. Schwulst, New York banker, recently assured convention members of the American Institute of Steel Construction.

* * *

IN its test bungalow, the National Bureau of Standards has found that a baseboard heating system produces smaller floor-to-head-level temperature variations than any other heating system tested to date in the four-room structure.

* * *

THE most important thing that has happened to the water heating industry in recent years is the general recognition of the importance of buying equipment adequate in size to meet the users' needs.

EIGHT DOLLARS are taken from your earnings each month in the form of taxes to pay those on the Federal payroll . . . and your share of the national debt today is $7000.

* * *

HOME builders and the government housing agencies are both busy these days — the one breaking building records and the other planning additional legislation.

* * *

REPAIR and modernization of American homes have kept pace with the record upswing of new home construction during 1949, with more than 9,700,000 repair loans amounting to some $3,815,-799,432.00 being made by the FHA since its inception.

* * *

A REPORT recently released by the Census Bureau shows a substantial increase in the number of owner-occupied houses and owner-operated farms since 1945.

* * *

"CAVING banks on the lower Mississippi River between Cairo, Ill., and Donaldson, La., yield 1,000,000 cubic yards of material per mile."—R. H. Haas, Mississippi River Commission.

* * *

THE RECALCITRANTS—"Forecast of Things to Come," in 2050 . . . "Why We Oppose a 104th Round" by Do-Nothing-About-It General Motors and United States Steel.

* * *

THE ideal in home planning is a bathroom for every member of the family:—Plumbing and Heating Industries Bureau.

CLAY BRICK ASSOCIATION BROADENS SERVICES

The Clay Brick and Tile Association of Northern California have expanded their operations through affiliation with the Structural Clay Products Institute, according to an announcement by George Solnar, manager.

This step, taken to provide better structural data service and cooperation in the specifications and usage of clay brick and tile, makes available the experience and informational resources of the entire industry in planning local projects.

Included in the anticipated benefits are the results of the continuing research being undertaken by the Clay Products Institute to facilitate and broaden the use of brick through more efficient methods of manufacturing and laying.

Members of the Northern California Association are: L. P. McNear Brick Co.; Port Costa Brick Works, Remillard-Dandini Co.; Richmond Brick Co.; San Jose Brick & Tile; Stockton Brick & Tile, and Kraftile Co.

IN THE NEWS

SOUTHERN CALIFORNIA CHAPTER OF ASSOCIATED GENERAL CONTRACTORS

Donald E. Reed of the Stanton Reed Company, Los Angeles, has been elected president of the Southern California Chapter of the Associated General Contractors of America for 1950.

Other officers elected to serve with Reed include: R. V. Edwards, B. M. Laulhere, Jr., and Claude A. Fisher, vice presidents; Spencer Webb, treasurer; Paul Spencer, C. J. Bakker, C. L. Parkhill, T. M. Page, Spencer Webb, H. W. Sayre, Alex Kostyzak, directors.

In outlining the chapter's program for this year, President Reed said:

"Among other things, particular emphasis will be given to the fight against a rapidly developing socialistic trend which threatens our American system of free enterprise. Specifically, it is the duty of all and especially those within the industry to utilize every means possible in preserving the competitive bidding contract method in construction."

SPORTS AUDITORIUM PROJECT ABANDONED

The Winterland Corporation's project of building a huge sports auditorium and ice skating rink at Duboce and Market Streets in San Francisco at an estimated cost of $1,000,000, has been abandoned according to an announcement by Geo. Campbell, vice president and general manager of the corporation.

The site has been taken over by the Rexall Company who contemplate construction of a super drug store and super market building costing an estimated $1,000,000.

SACRAMENTO STATE COLLEGE PLANS

A Master Plan adopted for the Sacramento State College calls for a $3,000,000 improvement in classroom, science, administration, library, cafeteria and boiler plant buildings, according to California, Division of Architecture, announcements.

Three Sacramento architects have been assigned the development of details for the buildings which are to be of concrete construction: Chas. F. Dean, Herbert E. Goodpastor, and Gordon Stafford.

MINNESOTA FEDERATION ENGINEERING SOCIETIES

Dramatic demonstration of new equipment in all fields of engineering will keynote the 5th Annual Exposition of the Minnesota Federation of Engineering Societies to be held in the Minneapolis Armory, February 21-24.

H. E. Palmer, president of the Federation, declared the exposition attracts interested visitors from many parts of the nation.

NEW ELKS LODGE BUILDING

The Elks Hall Association of Hanford (California) will build a new Elks Lodge Building containing lodge and banquet rooms, kitchen, lounge and recreation rooms, at an estimated cost of $100,000.

ARCHITECT SELECTED

Henry V. Chescoe, San Francisco architect, has been selected to draft plans for an addition to the Galt (California) high school building.

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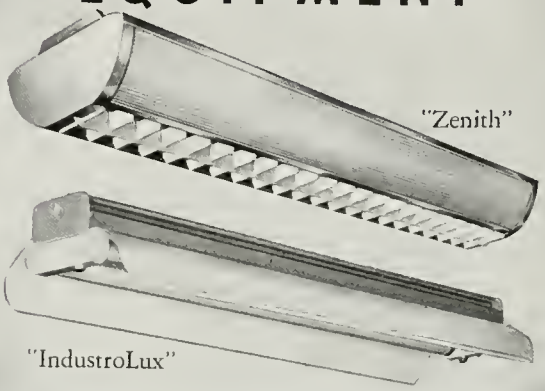

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BOOK REVIEWS
PAMPHLETS AND CATALOGUES

THE AUTOBIOGRAPHY OF AN IDEA. By Louis H. Sullivan. Peter Smith, Publisher, 321 Fifth Avenue, New York 16. Price $3.50

Although the author is eminent in his chosen profession, a brief "foreward" to The Autobiography of An Idea, has been prepared by Claude Bragdon. The book itself deals with the problem of steel-framed skyscrapers in an interesting narrative form in which the main character portrayed passes through the process of developing a desire for the architectural profession and the realization of his ambition.

The current book is a reprint of an earlier book that has been out of print a number of years, and therefore difficult to obtain.

THE STORY OF MAGNESIUM. By W. H. Gross. American Society for Metals, Publisher. 7301 Euclid Ave., Cleveland 3. Price $2.00

Starting with a prediction that someday magnesium would descend from the classification of a "rare" metal to one of common construction use, The Story of Magnesium covers the development and uses of magnesium since 1916.

It is a fascinating story of expanded uses and tremendous new output of commercial metal products.

PLASTICS IN ENGINEERING. By John Delmonte. The Penton Publishing Company, Cleveland, Ohio. Price $10.00.

A 656 page, completely indexed, clothbound, book in which the author offers an authoritative discussion on properties and applications of all types of plastic matterials. An outstanding book on the subject, it offers a convenient reference for finding the answer to almost any problem in plastics; its uses; methods of moulding and fabricating; characteristics of each type of mold construction; and the composition and preparation of moulding materials. Differentiates between thermosetting and thermoplastic materials, and latest methods to convert plastics into finished parts.

NEW CATALOGUES AVAILABLE

Any of the catalogues or folders described here may be obtained by forwarding your request as indicated in the coupon below to the office of the ARCHITECT & ENGINEER. *Merely mark the items you want and clip or paste the coupon to your letterhead.*

138. WOOD FIRE DOORS

Printed in color, this bulletin illustrates and describes Fox Brothers Protexol-Impregnated Wood Fire Doors before and after 60 and 90-minute fire tests. It contains charts that summarize test performance in detail. Construction details and special characterisics are presented clearly. A.I.A. File No. 16, 4 pages illus. 10/49.

139. PC GLASS BLOCKS

A new booklet on PC Glass Blocks, containing general and technical data, illustrations, construction details and specifications, is offered to architects, engineers, building contractors and owners. By dividing glass block patterns into decorative and functional groups and elaborating upon the specific advantages of each, this booklet makes it easier to select the correct pattern for the job requirements. A.I.A. 10-F, 40 pages illus. 9/49.

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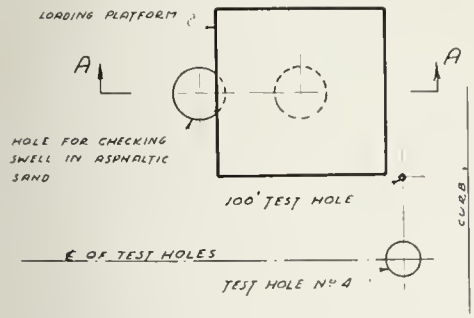
(April 1st.—A. & E.)

FOUNDATIONS
For Prudential Building in Los Angeles

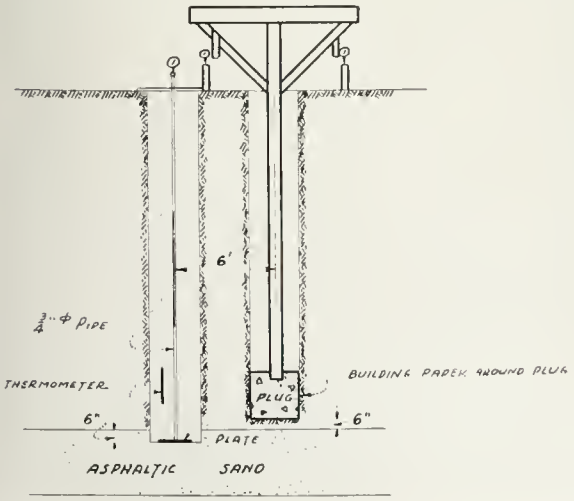
(From page 13)

sand of high asphalt content to flow. The effects of temperature change, rate of change and magnitude of stress, shape of footing and depth of footing were investigated. A large size field test was made to check the results of the laboratory tests and it was found to give results that checked the laboratory data within a few per cent. A short description of the field set up may be of interest.

Two thirty-six inch (36") diameter holes were drilled near test hole number 4. Diagram below shows a plan and section of the set up. One of the holes was drilled to within six inches (6") of the high asphalt content sand. This was carefully checked. The large hole was drilled to within one foot (1') of the estimated depth required. A workman then entered the hole with a two inch (2") diameter hand auger and made a small hole in the center of the bottom of the large hole. Hand excavation was then used to bottom the test hole as shown. The other thirty-six inch (36") diameter hole was drilled deep enough so that a twenty-four inch (24") diameter plate could be embedded six inches (6") into the asphaltic sand.



PLAN



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S. M. 5-0687

304 Bryant Street, Palo Alto
P. A. 3373

2610 The Alameda, Santa Clara
S. C. 607 (Factory)

6820 McKinley Avenue, Los Angeles
THornwall 4196

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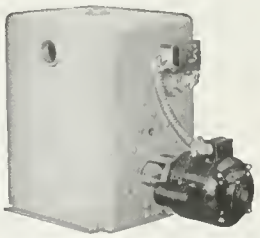

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SIMONDS MACHINERY CO.
SAN FRANCISCO, 816 FOLSOM
LOS ANGELES, 455 EAST 4TH

A loading platform was built as shown in illustration on page .... so that the concrete plug would serve as a loading plate. Ames dials were set at each corner of the loading platform so as to measure the downward movement of the loading platform when the loads were applied. A fifth dial indicator was fixed in place and set to measure the rise of the pipe shown to the left of the drawing. Load was applied to the platform in increments equivalent to one thousand pounds 1000) per square foot on the area of contact of the concrete plug. All dials were read and temperature recorded, at definite intervals of time throughout each loading.

Many interesting facts were learned from the investigation and two new laws governing stress and plastic flow were developed. These laws were then used for establishing the permissible bearing value and the maximum permissible embedment of footings. The results of the plastic flow study indicated several points:

1. Asphalt boils would continue to occur for a period of from five to ten years.

2. No basement should be used.

3. The use of bearing piles would be dangerous unless the piles were longer than a minimum of one hundred (100') feet. The exact length could not be calculated since the deepest test hole was one hundred (100') feet.

4. Unless something unusual should occur, the expected amount of plastic flow of material from under the building would be small.

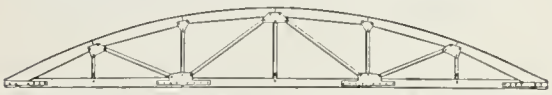
5. The amount of "bleeding" of the asphalt from the asphaltic sand is independent of the footing dimensions and shape and is a function of per cent of asphalt in the mixture, the modified angularity number of the sand and the stress on the footing.

In order to hold differential settlement to a minimum a grid type footing was used except under the tower. This special footing consisted of two systems of continuous strip footings which ran at right angles to each other. Columns were placed at the intersections of the strip footings. These strips were designed as continuous beams with the column loads as the beam reactions and the soil reaction as the beam load.

A continuous slab was used under the tower portion of the structure.

A very close cooperation between the structural engineer and the foundation engineer has paid dividends to the client. Measured performance of the footings and computed performance are checking very closely.

MONOCORD TIMBER TRUSSES



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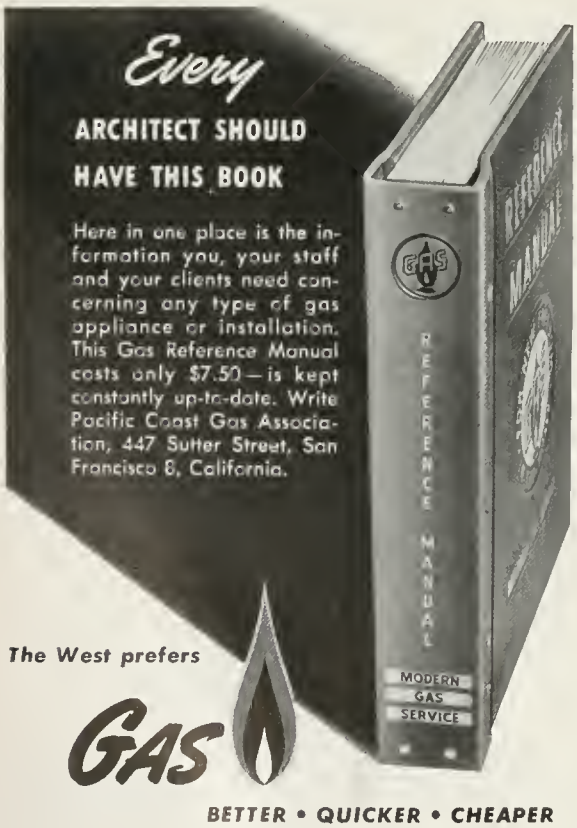
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Here in one place is the information you, your staff and your clients need concerning any type of gas appliance or installation. This Gas Reference Manual costs only $7.50—is kept constantly up-to-date. Write Pacific Coast Gas Association, 447 Sutter Street, San Francisco 8, California.
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STEEL SALESMEN PROMOTED

John S. Thompson and Robert H. Madden, Jr., have been named assistant managers of sales for the central sales division of Columbia Steel Company, according to a recent announcement by Harold Q. Noack, division vice president.

Offices of the division are maintained in San Francisco.

SPEAKS AT CHICAGO

Among the noted speakers appearing at the sixth annual convention of the National Association of Home Builders in Chicago this month was Fritz B. Burns, prominent Los Angeles developer.

ESTIMATOR'S GUIDE

BUILDING AND CONSTRUCTION MATERIALS

PRICES GIVEN ARE FIGURING PRICES AND ARE MADE UP FROM AVERAGE QUOTATIONS FURNISHED BY MATERIAL HOUSES TO SAN FRANCISCO CONTRACTORS. 3% SALES TAX ON ALL MATERIALS BUT NOT LABOR

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

BONDS—Performance or Performance plus Labor and Material Bond(s), $10 per $1000 on contract price. Labor & Material Bond(s) only, $5.00 per $1000 on contract price.

BRICKWORK—

Common Brick—Per 1M laid—$100.00 up (according to class of work).

Face Brick—Per 1M laid—$200.00 and up (according to class of work).

Brick Steps—$3.00 and up.

Common Brick Veneer on Frame Bldgs.—Approx. $1.20 and up—according to class of work).

Face Brick Veneer on Frame Bldgs.—Approx. $2.00 and up (according to class of work).

Common Brick—$33.00 per M—truckload lots, delivered.

Face Brick—$50.00 to $90.00 per M, truckload lots, delivered.

Fire Brick—Per M—$90.00 to $125.00.

Cartage—Approx. $9.00 per M.

Paving—$75.00.

BUILDING PAPER & FELTS

1 ply per 1000 ft. roll	$5.30
2 ply per 1000 ft. roll	7.80
3 ply per 1000 ft. roll	9 70
Brownskin, Standard 500 ft. roll	6.85
Sisalkraft, reinforced, 500 ft. roll	7.00
Sheathing Papers—	
Asphalt sheathing, 15-lb. roll	$2.20
30-lb. roll	2.93
Campcourse, 216-ft. roll	2.95
Blue Plasterboard, 60-lb. roll	5.10
Felt Papers—	
Deadening felt, ¾-lb., 50-ft. roll	$3.13
Deadening felt, 1-lb	3.69
Asphalt roofing, 15 lbs	2.20
Asphalt roofing, 30 lbs.	2.93
Roofing Papers—	
Standard Grade, 108-ft. roll, Light	$1.75
Medium	2.04
Heavy	2.40
Extra Heavy	2.77

BUILDING HARDWARE—

Sash cord com. No. 7	$2.65 per 100 ft.
Sash cord com. No. 8	3.80 per 100 ft.
Sash cord spot No. 7	3.65 per 100 ft.
Sash cord spot No. 8	4.00 per 100 ft.
Sash weights, cast iron, $100.00 ton.	
1-Ton lots, per 100 lbs	$3.75
Less than 1-ton lots, per 100 lbs	$4.75
Nails, per keg, base	$10.55
8-in. spikes	10.55
Rim Knob lock sets	1.80
Butts, dull brass plated on steel, 3½x3½	.73

CONCRETE AGGREGATES—

The following prices net to Contractors unless otherwise shown. Carload lots only.

	Bunker per ton	Del'd per ton
Gravel, all sizes	$2.44	$2.90
Top Sand	2.38	3.13
Concrete Mix	2.38	3.06
Crushed Rock, ¼" to ¾"	2.38	2.90
Crushed Rock, ¾" to 1½"	2.38	2.90
Roofing Gravel	2.81	2.90
River Sand	2.50	3.00
Sand—		
Lapis (Nos. 2 & 4)	3.56	3.94
Olympia (Nos. 1 & 2)	3.56	3.88

Cement—

Common (all brands, paper sacks), carload lots, $3.38 per bbl. f.o.b. car; delivered $3.60.

Per Sack, small quantity (paper) $1.00

Carload lots, in bulk per bbl 2.78

Cash discount on carload lots, 10c a bbl., 10th Prox., less than carload lots $4.00 per bbl. f.o.b. warehouse or delivered.

Cash discount 2% on L.C.L.

Trinity White, Medusa White: 1 to 100 sacks, $3.13 sack warehouse or del.; $9.56 bbl. carload lots.

CONCRETE READY-MIX—

1-2-4 mix, to 10 yards*	$11.75
10 to 100 yards*	10.75
Over 100 yards*	10.25

* Delivered to site.

CONCRETE BLOCKS—

	Haydite	Basalt
4x8x16-inches, each	$.16	$.16
6x8x16-inches, each	.21	.21
8x8x16-inches, each	.25	.25
12x8x16-inches, each	.33	
12x8x24-inches, each		.60

Haydite Aggregates—

¾-inch to ⅜-inch, per cu. yd	$6.50
⅜-inch to ⅛-inch, per cu. yd	6.50
⅛-inch to 0-inch, per cu. yd	7.00

DAMPPROOFING and Waterproofing—

Two-coat work, $9.00 per square.

Membrane waterproofing—4 layers of saturated felt, $10.00 per square.

Hot coating work, $5.00 per square.

Medusa Waterproofing, $3.50 per lb. San Francisco Warehouse.

Tricosal concrete waterproofing. 50c a cubic yd. and up.

ELECTRIC WIRING—$15 to $20 per outlet for conduit work (including switches).

Knob and tube average $6.00 per outlet. (Available only for priority work.)

ELEVATORS—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing a slow speed automatic passenger elevator in small four story apartment building, including entrance doors, about $8000.00.

EXCAVATION—

Sand, $1.00; clay or shale, $1.50 per yard.

Trucks, $30 to $45 per day.

Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

FIRE ESCAPES—

Ten-foot galvanized iron balcony, with stairs, $250 installed on new buildings; $300 on old buildings.

FLOORS—

Composition Floors, such as Magnesite, 50c per square foot.

Linoflor—2 gages—$3.00 per sq. yd.

Mastipave—$1.50 per sq. yd.

Battleship Linoleum—available to Army and Navy only—⅛"—$3.50 sq. yd. 3/16"—$3.50 sq. yd.

Terazzo Floors—$1.50 per sq. ft.

Terazzo Steps—$2.50 per lin. ft.

Mastic Wear Coat—according to type—20c to 35c.

Hardwood Flooring—

Standard Mill grades not available.

Victory Oak— T & G

25/32 x 2¼"	$252.00 per M. plus Cartage
½ x 2"	$210.00
½" x 1½"	200.00

Prefinished Standard & Better Oak Flooring

25/32 x 3¼"	$265.00 per M. plus Cartage
½ x 2½"	237.00 per M. plus Cartage

Maple Flooring

25/32" T & G Clear	$330.00 per M. plus Ctg.
2nd	305.00 per M. plus Ctg.
3rd	255.00 per M. plus Ctg.

Floor Layers' Wage, $2.28½ per hr. (Legal as of July 1, 1947. Given us by Inlaid Floor Co.)

GLASS—

Single Strength Window Glass	$ .25 per □ ft.
Double Strength Window Glass	.35 per □ ft.
Plate Glass, under 75 sq. ft.	2.00 per □ ft.
¼ in. Polished Wire Plate Glass	1.00 per □ ft.
¼ in. Rgh. Wire Glass	.58 per □ ft.
Obscure Glass	.45 per □ ft.

Glazing of above is additional.

Glass Blocks $2.75 per □ ft. set in place

HEATING—

Average, $2.50 to $3.00 per sq. ft. of radiation, according to conditions.

Warm air (gravity) average $64 per register.

Forced air average $91 per register.

INSULATION AND WALLBOARD—

Rockwool Insulation—
(2") ..... $65.00 per M sq. ft.
Cotton Insulation—Full-thickness
(3⅜") ..... $95.50 per M sq. ft.
Sisalation Aluminum Insulation—Aluminum coated on both sides ..... $23.50 per M sq. ft.
Tileboard—4'x6' panel ..... $9.00 per panel
Wallboard—½" thickness ..... $55.00 per M sq. ft.
Finished Plank ..... $69.00 per M sq. ft.
Ceiling Tileboard ..... $69.00 per M sq. ft.

IRON—Cost of ornamental iron, cast iron, etc., depends on designs.

LUMBER—

No. 1 Common ..... $85.00 per M
No. 2 Common ..... 83.00 per M
Select O. P. Common ..... 90.00 per M

Flooring—

	Per M Delvd.
V.G.-D.F. B & Btr. 1 x 4 T & G Flooring	$225.00
"C" and better—all	225.00
"D" and better—all	225.00
Rwd. Rustic—"A" grade, medium dry, 6 to 24 ft.	185.00
"B" grade, medium dry	150.00
Plywood	18c to 20c per ft.
Plyscord	11½c per ft.
Plywall	9c per ft.
Plyform	15c per ft.

Shingles (Rwd. not available)—
Red Cedar No. 1—$9.50 per square; No. 2, $7.00; No. 3, $5.00.
Average cost to lay shingles, $6.00 per square.
Cedar Shakes—½" to ¾" x 24/26 in handsplit tapered or split resawn, per square $15.25
¾" to 1¼" x 24/26 in split resawn, per square 17.00
Average cost to lay shakes,— 8.00 per square

MARBLE—(See Dealers)

METAL LATH EXPANDED—

Standard Diemond, 3.44, Copper Bearing, per carloads, per 100 sq. yds. $35.50
Standard Ribbed, ditto 37.70

MILLWORK—Standard.

D. F. $150 per 1000. R. W. Rustic $175 per 1000 (delivered).
Double hung box window frames, average with trim, $12.50 and up, each.
Complete door unit, $15 to $25.
Screen doors, $8.00 to $12.00 each.
Patent screen windows, $1.25 a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., upper $9.00 to $11.00; lower $12.00 to $13.00.
Dining room cases, $20.00 per lineal foot. Rough and finish about $1.00 per sq. ft.
Labor—Rough carpentry, warehouse heavy framing (average), $75.00 per M.
For smaller work average, $85.00 to $100. per 1000.

PAINTING—

Two-coat work ..... per yard 85c
Three-coat work ..... per yard $1.10
Cold water peinting ..... per yard 25c
Whitewashing ..... per yard 15c
Turpentine ..... $1.85 per gal. in 5-gal. cont.
Raw Linseed Oil ..... $3.33 per gal. in 5-gal. cont.
Boiled Linseed Oil ..... $3.23 per gal. in drums.
Boilad Linseed Oil—$3.33 per gal. in 5-gal. containers.
Replacement Oil—$2.75 per gal. in drums. $2.75 per gal. in 5-gal. containers.
Use Replacement Oil ..... $3.00 per gal. in 1 gal. cont.
A deposit of $7.50 required on all drums.

PATENT CHIMNEYS—

6-inch ..... $2.50 lineal foot
8-inch ..... 3.00 lineal foot
10-inch ..... 4.00 lineal foot
12-inch ..... 5.00 lineal foot

PLASTER—

Neat wall, per ton delivered in S. F. in paper bags, $17.60.

PLASTERING (Interior)—

	Yard
3 Coats, metal lath and plaster	$3.00
Keene cement on metal lath	3.50
Ceilings with ¾ hot roll channels metal lath (lathed only)	3.00
Seilings with ¾ hot roll channels metal lath plastered	4.50
Single partition ¾ channel lath 1 side (lath only	3.00
Single partition ¾ channel lath 2 inches thick plastered	8.00
4-inch double partition ¾ channel lath 2 sides (lath only)	5.75
4-inch double partition ¾ channel lath 2 sides plastered	8.75
Thermax single partition; 1" channels; 2¼" overall partition width. Plastered both sides	7.50
Thermax double partition; 1" channels; 4¾" overall partition width. Plastered both sides	11.00
3 Coats over 1" Thermax nailed to one side wood studs or joists	4.50
3 Coats over 1" Thermax suspended to one side wood studs with spring sound isolation clip	5.00

Note—Channel lath controlled by limitation orders.

PLASTERING (Exterior)—

	Yard
2 coats cement finish, brick or concrete wall	$2.50
3 coats cement finish, No. 18 gauge wire mesh	3.50

Lime—$4.00 per bbl. at yard.
Processed LLiLme—$4.15 per bbl. at yard.
Rock or Grip Lath—⅜"—30c per sq. yd.
½"—29c per sq. yd.
Composition Stucco—$4.00 sq. yard (applied).

PLUMBING—

From $200.00 per fixture up, according to grade, quality and runs.

ROOFING—

"Standard" tar and gravel, 4 ply—$11.00 per sq. for 30 sqs. or over.
Less than 30 sqs. $14.00 per sq.
Tile $40.00 to $50.00 per square.
No. 1 Redwood Cedar in place, 4½ in. exposure, per square $18.25
5/2 No. 1 Cedar Shingles, 5 in. exposure, per square 14.50
5/8 x 16"—No. 1 Little Giant Cedar Shingles, 5" exposure, per square .. 18.25
4/2 No. 1-24" Royal Cedar Shingles 7½" exposure, per square 23.00
Re-coat with Gravel $5.50 per sq.
Asbestos Shingles $35 to $45 per sq. laid.
½ to ¾ x 25" Resawn Cedar Shakes, 10" Exposure $24.00
¾ to 1¼ x 25" Resawn Cedar Shakes, 10" Exposure $29.00
1 x 25" Resawn Cedar Shakes, 10" Exposure 22.00
Above prices are for shakes in place.

SEWER PIPE—

C.I. 6-in. to 24-in. B. & S. Class B and heavier, per ton $99.50
Vitrified, per foot:
Standard, 8-in. ..... $ .62
Standard, 12-in. 1.09
Standard, 24-in. 4.72
Clay Drain Pipe, per 1,000 L.F. in carload lots:
Standard, 6-in. $211.00
Standard, 8-in. 352.00

SHEET METAL—

Windows—Metal, $2.50 a sq. ft.
Fire doors (average), including hardware $2.80 per sq. ft., size 12'x12'. $3.75 per sq. ft., size 3'x6'.

SKYLIGHTS—(not glazed)

Copper, $1.25 sq. ft. (flat).
Galvanized iron, 65c sq. ft. (flat).
Vented hip skylights, $1.50 sq. ft.

STEEL—STRUCTURAL—

$220 per ton erected, when out of mill.
$270 per ton erected, when out of stock.

STEEL REINFORCING—

$200.00 per ton, in place.

¼-in. Rd.	$7.15
⅜-in. Rd.	6.40
½-in. Rd.	6.20
⅝-in. Rd.	6.05
¾-in. & ⅞-in. Rd.	6.00
1-in. & up	5.95

STORE FRONTS (None available).

TILE—

Ceramic Tile Floors—Commercial $1.15 to $1.50.
Cove Base—$1.35 per lin. ft.
Tile Wainscot & Floors—Residential $1.50 to $1.75.
Tile Wainscot—Commercial $1.35 to $1.50.
Asphalt Tile Floor ⅛" x ⅛"—$ .40 per sq. ft. Light shades slightly higher.
Cork Tile—$1.00 per sq. ft.
Mosaic Floors—See dealers.
Lino-Tile—$1.00 per sq. ft.

Wall Tile—
Glazed Terra Cotta Wall Units (single faced) laid in place—approximate prices:

2 x 6 x 12	$1.25 sq. ft.
4 x 6 x 12	1.50 sq. ft.
2 x 8 x 16	1.45 sq. ft.
4 x 8 x 16	1.75 sq. ft.

Building Tile—

8x5½x12-inches, per M	$139.50
6x5½x12-inches, per M	105.00
4x5½x12-inches, per M	84.00

Hollow Tile—

12x12x3-inches, per M	$124.00
12x12x4-inches, per M	139.50
12x12x0-inches, per M	176.00

VENETIAN BLINDS—

75c per square foot and up. Installation extra.

WINDOWS—STEEL—

60c per square foot, $5 for ventilators.

ESTIMATOR'S DIRECTORY

Building And Construction Materials

EXPLANATION—Building and construction materials are shown in major classified groups for general identification purposes with names and addresses of suppliers of materials listed in detail under group classification where name first appears—main offices are shown first, with branch or district offices following. The numeral appearing in listings refers to the major group classification where complete data on the dealer, or representative, may be found.

ICKWORK (1)
ce Brick
Gladding, McBean & Co.
San Francisco: Harrison at 9th Sts., UN 1-7400
Los Angeles: 2901 Los Feliz Blvd., OL 2121
Offices at Portland, Seattle, Spokane
Kraftile
Niles, California, Niles 3611
San Francisco 5: 50 Hawthorne St., DO 2-3780
Los Angeles 13: 406 South Main St., MU 7241
Remillard-Dandini Co.
San Francisco: 400 Montgomery St., EX 2-4988
eramic Veneer
Pacific Clay Products
San Francisco: 605 Market St., GA 1-3970
Los Angeles, Portland, Salt Lake City

ILDING PAPER & FELTS (2)
Sisalkraft Company
San Francisco: 55 New Montgomery St., EX 2-3066
Chicago, Ill.: 205 West Wacker Drive
Angier Pacific Corp.
San Francisco 5: 55 New Montgomery St., DO 2-4416
Los Angeles: 7424 Sunset Boulevard

ILDING HARDWARE (3)
The Stanley Works
San Francisco: Monadnock Bldg., YU 6-5914
New Britain, Conn.

ONCRETE AGGREGATES (4)
ment
Pacific Portland Cement
San Francisco: 417 Montgomery St., GA 1-4100
ghtweight Aggregates
American Perlite Corp.
Richmond, Calif.: 26th & B Sts.—Yard 2, RI 4307

RE ESCAPES (5)
Soule Steel
San Francisco: 1750 Army St., VA 4-4141
Los Angeles, Calif.—LA 0911
Portland, Ore.—BE 5155
Seattle, Wash.—SE 3010
Michel & Pfeffer Iron Works, Inc.
San Francisco 3: Tenth & Harrison Sts., MA 1-5966

FLOORS (6)
Hardwood Flooring
Hogan Lumber Company
Oakland: Second and Alice Sts., GL 1-6861
E. K. Wood Lumber Co.
Los Angeles: 4710 S. Alameda St., JE 3111
Oakland: 727 Kennedy St., KE 4-8466
Portland: 827 Terminal Sales Building

GLASS (7)
W. P. Fuller Company
San Francisco: 301 Mission St., EX 2-7151
Los Angeles, Calif.
Portland, Oregon

HEATING (8)
Henderson Furnace & Mfg. Co.
Sebastopol, Calif.
S. T. Johnson Co.
Oakland 8: 940 Arlington Ave., OL 2-6000
San Francisco: 585 Potrero Ave., MA 1-2757
Philadelphia 8, Pa.: 401 No. Broad St.
Scott Company
San Francisco: 243 Minna St., YU 2-0400
Oakland: 113 - 10th St., GL 1-1937
San Jose, Calif.
Los Angeles, Calif.
Thomas B. Hunter (Designer)
San Francisco: 41 Sutter St., GA 1-1164

INSULATION AND WALLBOARD (9)
Lumber Manufacturing Co.
San Francisco: 225 Industrial Ave., JU 7-1760
Sisalkraft Company *(2)
Western Asbestos Company
San Francisco: 675 Townsend St., KL 2-3868
Oakland: 251 Fifth Avenue, GL 1-2345
Sacramento: 1224 I Street, 2-8993
Stockton: 1120 E. Weber Ave., 4-1863
Fresno: 1837 Merced Street, 3-3277
San Jose: 201 So. Market St., BA 4359-J

IRON—Ornamental (10)
Michel & Pfeffer Iron Works, Inc. *(5)

LIGHTING FIXTURES (11)
Smoot-Holman Company
San Francisco: 55 Mississippi St., MA 1-8474

LUMBER (12)
Hogan Lumber Company *(6)
Lumber Manufacturing Co. *(9)
E. K. Wood Lumber Co. *(6)
Shingles
Sidewall Lumber Company
San Francisco 24: 1995 Oakdale Ave., AT 2-8112

MARBLE (13)
Vermont Marble Company
San Francisco: 525 Market St., SU 1-6747
Los Angeles 4: 3522 Council St., FA 7834

METAL LATH EXPANDED (14)
Forderer Cornice Works
San Francisco: 269 Potrero Ave., HE 1-4100
Soule Steel *(5)

MILLWORK (15)
Pacific Manufacturing Company
San Francisco: 16 Beale St., GA 1-7755
Santa Clara: 2610 The Alameda, SC 607
Los Angeles: 6820 McKinley Ave., TH 4196
Mullen Manufacturing Company
San Francisco: 60-80 Rausch St., UN 1-5815
Lumber Manufacturing Company *(9)

PAINTING (16)
The Tormey Company
San Francisco: 563 Fulton St., UN 1-1913
Paint
W. P. Fuller Company *(7)
Wood Preservatives
Gunn Carle & Company
San Francisco: 20 Potrero Ave., UN 1-5480

PLASTER (17)
Exteriors
Pacific Portland Cement Company *(4)
Interiors—Metal Lath & Trim
Forderer Cornice Works *(14)

PLUMBING (18)

The Scott Company *(8)
The Halsey Taylor Company
Redlands, Calif.
Warren, Ohio
Haws Drinking Faucet Company
Berkeley 10: 1435 Fourth St., LA 5-3341
Continental Water Heater Company
Los Angeles 31: 1801 Pasadena Ave., CA 6178
Simonds Machinery Company
San Francisco: 816 Folsom St., DO 2-6794
Los Angeles: 455 East 4th St., MU 8322
Security Valve Company
Los Angeles 31: 410 San Fernando Road, CA 6191

SEWER PIPE (19)

Gladding, McBean & Co. *(1)

SHEET METAL (20)

Windows
Detroit Steel Products Company
Oakland 8: 1310 - 63rd St., OL 2-8826
San Francisco: Russ Building, DO 2-0890
Michel & Pfeffer Iron Works, Inc. *(5)
Soule Steel Company *(5)
Fire Doors
Detroit Steel Products Company
Skylights
Detroit Steel Products Company

STEEL—STRUCTURAL (21)

Herrick Iron Works
Oakland: 18th & Campbell Sts., GL 1-1767
Judson Pacific-Murphy Corp.
Emeryville: 4300 Eastshore Highway, OL 3-1717
Republic Steel Corp.
San Francisco: 116 N. Montgomery St., GA 1-0977
Los Angeles: Edison Building
Seattle: White-Henry-Stuart Building
Salt Lake City: Walker Bank Building
Denver: Continental Oil Building
Kraftile Company *(1)
San Jose Steel Company
San Jose: 195 North Thirtieth St., CO 4184

STEEL—REINFORCING (22)

Republic Steel Corp. *(21)
Herrick Iron Works *(21)
San Jose Steel Co. *(21)

TILE (23)

Gladding, McBean & Co. *(1)
Kraftile Company *(1)

WALL TILE (24)

Gladding, McBean & Co. *(1)
Kraftile Company *(1)

WINDOWS STEEL (25)

Detroit Steel Products Co. *(20)
Michel & Pfeffer Iron Works, Inc. *(5)
Soule Steel Company *(5)

GENERAL CONTRACTORS (26)

Dinwiddie Construction Company
San Francisco: Crocker Building, YU 6-2718
Clinton Construction Company
San Francisco: 923 Folsom St., SU 1-3440
Mattock Construction Company
San Francisco: 604 Mission St., GA 1-5516
Stolte, Inc.
Oakland: 8451 San Leandro Blvd., TR 2-1064
Swinerton & Walberg Company
San Francisco: 225 Bush St., GA 1-2980
Oakland: 1723 Webster St., HI 4-4322
Los Angeles, Sacramento, Denver
P. J. Walker Company
San Francisco: 391 Sutter St., YU 6-5916
Los Angeles: 3920 Whiteside St., AN 9-8567

TESTING LABORATORIES (ENGINEERS & CHEMISTS) (27)

Abbot A. Hanks, Inc.
San Francisco: 624 Sacramento St., GA 1-169
Robert W. Hunt Company
San Francisco: 251 Kearny St., EX 2-4634
Los Angeles: 3050 E. Slauson, JE 9131
Chicago, New York, Pittsburgh
Pittsburgh Testing Laboratory
San Francisco: 651 Howard St., EX 2-1747

BUILDING TRADES WAGE (JOB SITES) NORTHERN, CENTRAL AND SOUTHERN CALIFORNIA

ATTENTION: The following are the PREVAILING hourly rates of compensation being paid and in effect by employers by agreement between employees and their union; or as recognized and determined by the U. S. Department of Labor. (Revised to Sept. 1, 1949.)

CRAFT	San Francisco	Alameda	Contra Costa	Fresno	Sacramento	Santa Clara	Solano	Stockton	Los Angeles	San Bernardino	San Diego	Santa Barbara	Kern
ASBESTOS WORKERS	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.25	$2.25	$2.25	$2.25	$2.25
BRICKLAYERS	3.00*	3.00	3.00	2.50	3.00	3.00	3.00	2.05*	2.265	2.50	2.50	2.625	2.50
BRICKLAYERS, HODCARRIERS	2.25	2.25	2.25	2.00	2.00	1.75	2.25	1.60*	1.75	1.75	1.75	1.75	1.75
CARPENTERS	2.16	2.16	2.175	2.175	2.175	2.175	2.175	2.175	2.12	2.12	2.12	2.12	2.12
CEMENT FINISHERS	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20
ELECTRICIANS	2.50	2.50	2.50	2.25	2.50	2.50	2.40	2.40	2.40	2.40	2.375	2.40	2.15
ELEVATOR CONSTRUCTORS	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.25	2.25	2.25	2.25	2.25
ENGINEERS: MATERIAL HOIST	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	1.9875	1.9875	1.9875	1.9875	1.9875
PILE DRIVER	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.32	2.32	2.32	2.32	2.32
STRUCTURAL STEEL	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.30	2.30	2.2375	2.30	2.30
GLAZIERS	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.96
IRONWORKERS: ORNAMENTAL	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.175	2.175	2.1125	2.175	2.175
REINF. RODMEN	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.20	2.20	2.20	2.20	2.20
STRUCTURAL	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.30	2.30	2.2375	2.30	2.30
LABORERS: BUILDING	1.55	1.55	1.55	1.45	1.55	1.45	1.55	1.55	1.57	1.57	1.57	1.57	1.57
CONCRETE	1.55	1.55	1.55	1.45	1.55	1.45	1.55	1.55	1.57	1.57	1.57	1.57	1.57
LATHERS	2.8125	2.8125	2.8125	2.8125	2.00*	2.50*	2.8125	2.8125	2.50	2.50	2.50	2.50	2.50
MARBLE SETTERS	2.375	2.375	2.375	2.375	2.375	2.375	2.375	2.375	2.25	2.25	2.25	2.25	2.25
MOSAIC & TERRAZZO	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.40	2.40	2.20	2.40	2.40
PAINTERS	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.00	1.90	2.10	2.18	2.25
PILEDRIVERS	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25
PLASTERERS	2.8125	2.50*	2.50*	2.25*	2.25*	2.50*	2.50*	2.8125	2.50	2.75	2.50	2.50	2.50
PLASTERERS, HODCARRIERS	2.50	2.25*	2.25*	1.775*	2.00*	2.00*	2.25*	2.16	2.15	2.25	2.30	2.00	2.00
PLUMBERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
ROOFERS	2.25	2.25	2.25	1.875	2.00	2.00	2.16	2.25	2.25	2.00	1.90	2.00	2.00
SHEET METAL WORKERS	2.25	2.25	2.25	2.125	2.30	2.40	2.125	2.125	2.15	2.15	2.175	2.00	2.15
SPRINKLER FITTERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.25	2.25	2.25	2.25	2.25
STEAMFITTERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
STONESETTERS (MASONS)	3.00	2.8125	2.8125	2.25*	2.8125	2.8125	2.8125	2.05*	1.50	1.50	1.50	2.625	1.715
TILESETTERS	2.675	2.675	2.675	2.15	2.00	2.675	2.675	2.4375	2.50	2.50	2.20	2.50	2.25

* 6 Hour Day. ** 7 Hour Day.

Prepared and compiled by:
CENTRAL CALIFORNIA CHAPTER, ASSOCIATED GENERAL CONTRACTORS OF AMERICA, with the assistance and cooperation of secretaries of General Contractors Associations and Builders Exchanges of Northern California; and the above information for southern California is furnished by the Labor Relations Department of the Southern California Chapter, ASSOCIATED GENERAL CONTRACTORS OF AMERICA.

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New Public Housing

(From page 10)

architectural profession to establish what the technical payrolls are. After a year or more experience with this new contract, a reveiw of costs will probably be made to determine whether further adjustments up or down are needed.

"This new basis of compensation, while generally 2.5 times payroll costs, would provide for a contract which establishes a fee to include three component factors:

1. A fixed amount equal to forty per cent of the maximum fee schedule contained in the above-identified PHA schedule.
2. An amount for 'timecard costs' (technical payroll), which would be reimbursed to the architect on the presentation of cost data approved by the local housing authority.
3. An amount for overhead equal to 50 per cent of 'timecard costs.'

"The maximum amounts for items 2 and 3 will be fixed at the time the contract is executed, as aggregating sixty per cent of the maximum fees recently recommended by A.I.A. If actual time card costs plus fifty per cent overhead amount to less than the fixed maximum amount, the local housing authority will allow the architect twenty-five per cent of the savings, and will benefit by the remaining seventy-five per cent.

"This revised maximum list would permit payments, where justified by costs, up to a level exceeding the schedule recently published by PHA by approximately thirty per cent on smaller projects, graduating down to no increase on the largest projects.

"As an alternate now designated as Option No. 1 to the foregoing basis for determining fees paid architects under the low-rent housing program, the PHA intends to retain its previously approved schedule of fees known as 216.2. The newly-approved schedule, will be known as Option No. 2. The decision as to whether the architect's contract is based on Option No. 1 or Option No. 2 will be a matter left entirely to the determination of each local housing authority and its architect."

Other members of the A.I.A. committee on fees who represented the A.I.A. in the recent negotiations, besides the chairman Clarence B. Litchfield, are Harry M. Prince, New York, vice-chairman; and David H. Morgan, Philadelphia.

NATIONAL HOME SHOW, LOS ANGELES

Carl F. Kraatz, executive manager of the 5th National Home Show, announces the event will be held June 10-18 in the Pan Pacific Auditorium, Los Angeles. The wide variety of participants in previous shows is expected to be surpassed by this year's event.

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CONSTRUCTION CONTRACTS AWARDED AND MISCELLANEOUS PERSONNEL DATA

10 APARTMENT BUILDINGS — FRESNO, FRESNO COUNTY. Brooks-Manor, Inc., owner. 40 apartments. $400,000. ARCHITECT: H. C. Baumann, San Francisco. 2 story, frame and stucco construction. GENERAL CONTRACTOR: Syndicate Builders, Inc., Fresno.

BOWLING ALLEY BUILDING—SAN FRANCISCO. Garibaldi Bros., owner. 22 alleys, 2 stores, cocktail lounge and fountain. $156,749. ARCHITECT: Rudolph Igaz, San Francisco. 1 story, 125x190, reinforced concrete construction, wood roof. GENERAL CONTRACTOR: S & Q Construction Co. and Rude & Lipman, San Francisco.

GYMNASIUM BUILDING—ARCATA, HUMBOLDT COUNTY. Arcata Union High School district, owner, $339,497. ARCHITECT: Masten & Hurd, San Francisco. Reinforced concrete and structural steel construction. GENERAL CONTRACTOR: Central State Construction Company, San Francisco.

PINE CREST GRAMMAR SCHOOL—SEBASTOPOL, SONOMA COUNTY. Sebastopol Union Elementary School District, owner. 9 classrooms, kindergarten, offices and toilet rooms. $205,550. ARCHITECT: J. Clarence Felciano, Santa Rosa. Frame and stucco construction. GENERAL CONTRACTOR: Francies Construction Co., Santa Rosa.

GRAMMAR SCHOOL — PORTOLA, SAN MATEO COUNTY. Portola Elementary School District, owner. 5 classrooms, kindergarten, office and toilet rooms, $61,160. ARCHITECT: Arthur D. Janssen and Wm. R. Daseking, Atherton. Frame and stucco construction. GENERAL CONTRACTOR: Fay H. Morser, Redwood City.

CHURCH & PARISH HALL — WINTERS, YOLO COUNTY: Roman Catholic Bishop of Sacramento, owner; St. Anthony Parish, $26,666. ARCHITECT: Barovetto & Thomas, Sacramento; frame & stucco construction. GENERAL CONTRACTOR: J. A. Waterbury, Sacramento.

NEW GRAMMAR SCHOOL—SANTA ROSA, SONOMA COUNTY: Rincon Valley Union Elementary School Department, owner; 6 classrooms, kindergarten, offices & toilet rooms, $131,488. ARCHITECT: J. Clarence Felciano, Santa Rosa; frame & stucco construction, concrete floors, asphalt tile, radiant heating. GENERAL CONTRACTOR: D. L. Faull, Santa Rosa.

GRAMMAR SCHOOL—McKITTRICK, KERN COUNTY: Olig Elementary School District, owner; $224,000. ARCHITECT: Wright, Metcalf & Parsons, Bakersfield; frame & stucco construction. GENERAL CONTRACTOR: Fred S. Macomber, Los Angeles.

WAREHOUSE BUILDING—SAN FRANCISCO: Libby, McNeill & Libby, owner; $150,000. ARCHITECT: W. D. Peugh, San Francisco; 1 story, 30,000 sq. ft., reinforced concrete & structural steel construction, provides for future 2nd story office. GENERAL CONTRACTOR: Alfred P. Fisher, San Francisco.

HEALTH & WELFARE BUILDING—BUTTON WILLOW, KERN COUNTY: County of Kern, owner; $43,430. ARCHITECT: Wright, Metcalf & Parsons, Bakersfield; 1 story, 5,000 sq. ft., concrete block, tile roof, wood sash, acoustical work, cooling system. GENERAL CONTRACTOR: George Vannatta, Shafter.

GRAMMAR SCHOOL ADDITION—CUPERTINO, SANTA CLARA COUNTY: Cupertino Union Elementary School District, owner; 8 classrooms, offices, multi-use room & toilet, $180,855. ARCHITECT: Birge M. Clark & Walter M. Stromquist, Palo Alto; frame & stucco construction. GENERAL CONTRACTOR: Nielsen & Nielsen, San Jose.

JAMES LICK HIGH SCHOOL BUILDING—SAN JOSE, SANTA CLARA COUNTY: East Side Union High School District, owner; Classroom unit, administration, gymnasium, library, science, home economics, cafeteria, toilet rooms, etc., $1,128,820. ARCHITECT: Kress & Gibson, San Jose; reinforced concrete & frame & stucco construction. GENERAL CONTRACTOR: O. E. Anderson, San Jose.

HILLCREST ELEMENTARY SCHOOL SAN FRANCISCO: City & county of San Francisco, owner; 14 classrooms, 2 kindergartens, administration, community room, all purpose & playroom, lunch room, library & toilet rooms, $653,626. ARCHITECT: W. P. Day, San Francisco; 2 story, reinforced concrete construction. GENERAL CONTRACTOR: Robt. McCarthy Co., San Francisco.

KING'S MARKET BUILDING—DALY CITY: Stonecrest Corp., owner; $115,000. ARCHITECT: Angus McSweeney, San Francisco; 1 story, frame & stucco construction. GENERAL CONTRACTOR. McDonald, Young & Nelson, San Francisco.

FACTORY & OFFICE BUILDING — SAN LEANDRO, ALAMEDA COUNTY: Andre Paper Box Co., San Francisco; $250,000. STRUCTURAL ENGINEER: Clarence E. Seage, San Francisco; 1 story, 100 x 300, reinforced concrete & frame construction, wood roof trusses. GENERAL CONTRACTOR: W. C. Tait Co., San Francisco.

STORE BUILDING CONCORD, CONTRA COSTA COUNTY: David Zuckermann, owner; 4 stories, $50,000. ARCHITECT: Leonard H. Ford, Walnut Creek; 1 story, concrete block & frame construction some structural steel.

OFFICE BUILDING — SAN FRANCISCO: Brisacher-Wheeler, owner; $109,696. ARCHITECT: Wm. G. Merchant, San Francisco; 2 story, reinforced concrete & frame construction. GENERAL CONTRACTOR: Haas & Rothschild, San Francisco.

ADMINISTRATION BUILDING & 125 MAN DORMITORY BUILDING—FRENCH CAMP, SAN JOAQUIN COUNTY: County of San Joaquin, owner; $97,604. ARCHITECT: Elmore G. Ernst, Stockton; concrete block or reinforced concrete construction, composition roof, steel sash. GENERAL CONTRACTOR: John Hackman, Stockton.

NEW JUNIOR COLLEGE BUILDINGS—REDDING, SHASTA COUNTY: Shasta Jr. College District, owner; classrooms, administration, science room, shops, etc., $636,967. ARCHITECT: Chas. F. Dean, Sacramento; reinforced concrete & frame construction, some brick veneer. GENERAL CONTRACTOR: B & R Construction Co., San Francisco.

BROOKFIELD GRAMMAR SCHOOL OAKLAND, ALAMEDA COUNTY: Oakland Board of Education, owner; $315,301. ARCHITECT: Confer & Willis, Oakland; 31,700 sq. ft., frame & stucco construction. GENERAL CONTRACTOR: W. Vernon Bernard, Oakland.

FACTORY BUILDING ADDITION & REMODEL —SAN FRANCISCO: Sutliff Tobacco Co., owner; $57,713. ARCHITECT: Peterson & Spackman, San Francisco; interior & exterior remodel & addition. GENERAL CONTRACTOR: Ralph Larsen & Son, San Francisco.

ISOLATION HOSPITAL BUILDING—SALINAS, MONTEREY COUNTY: County of Monterey, owner; 31 beds, $33,300. ARCHITECT: Robt. Stanton, Carmel. GENERAL CONTRACTOR: Lembke Construction Co., Las Vegas.

HIGH SCHOOL ADDITION —FAIR OAKS, SACRAMENTO COUNTY: San Juan High School District, owner; 8 classrooms, office, shop & toilet rooms, $145,079. ARCHITECT: Chas. F. Dean, Sacramento; reinforced concrete & frame & stucco construction. GENERAL CONTRACTOR: Arthur Odman, Fair Oaks.

MEDICAL BUILDING RENO, NEVADA: Albert E. Hillard, owner; 6 suites of offices & drug store, $70,000. ARCHITECT: Russell H. Clopine, Reno; 2 story brick & frame construction, heating & air conditioning system. GENERAL CONTRACTOR: M. J. Brock & Sons, Reno.

STORE & OFFICE BUILDING — BURLINGAME, SAN MATEO COUNTY: Geo. Garbuio, owner; $82,217. ARCHITECT: Rigby & Chambers, Burlingame; 2 story, 50 x 125, reinforced concrete & frame construction. GENERAL CONTRACTOR: Morris Daley, San Mateo.

REHABILITATION OF WASHROOMS IN COMMISSIONED OFFICERS MESS BUILDING No. 18—OAKLAND, ALAMEDA COUNTY: U. S. Bureau of Yards & Docks, owner; U. S. Naval Hospital, $2,317. GENERAL CONTRACTOR: Superior Tile Company, Oakland; tile floors and wainscot and plumbing work.

SCIENCE BUILDING — SAN FRANCISCO: State of California, owner; two story & basement, reinforced concrete construction, approximately 51,000 sq. ft., elevator, $589,410. ARCHITECT: State of California. GENERAL CONTRACTOR: Moore & Roberts, San Francisco.

BAR, RESTAURANT & BAKERY — SAN FRANCISCO: D. & W. Foods, Inc., San Francisco, owner; frame & stucco construction with some stone veneer, $50,000. ARCHITECT: Clarence W. W. Mayhew. GENERAL CONTRACTOR: Barrett & Hilp, San Francisco.

KIRKLAND BUS YARD —SAN FRANCISCO: City & County of San Francisco, owner; Municipal Railways, Public Utilities Commission, $235,417. GENERAL CONTRACTOR: A. W. Baum, San Francisco.

CALEB GREENWOOD GRAMMAR SCHOOL —SACRAMENTO: River Park District, owner; Sacramento Board of Education; 4 classrooms, kindergarten, office & toilet rooms, $126,413. Frame & stucco construction. ARCHITECT: Geo. T. Sellon, Sacramento. GENERAL CONTRACTOR: Lawrence Construction Company, Sacramento.

PLAYGROUND — OAKLAND, ALAMEDA COUNTY: City of Oakland, owner; $54,705. GENERAL CONTRACTOR: California Build-

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OFFICE & WAREHOUSE—SAN FRANCISCO: Western Steel & Wire Company, owner; precast concrete walls & structural steel frame, $35,000. ENGINEER: H. M. O'Neil Company, Oakland. GENERAL CONTRACTOR: E. S. McKittrick, Oakland.

NEW WALTER T. HELMS JR. HIGH SCHOOL SAN PABLO ROAD, CONTRA COSTA COUNTY: Richmond Union High School District, owner; 46 class rooms, administration, laboratories, domestic science, library, study hall, gymnasium, cafeteria, shops, $1,596,700. ARCHITECT: Dragon, Schmidts & Hardman, Berkeley; reinforced concrete, 2 story concrete construction. GENERAL CONTRACTOR: John E. Branagh & Son, Piedmont.

TWO APARTMENTS BUILDINGS—FRESNO, FRESNO COUNTY: Max Cherin, Fresno, owner; 2 story frame & stucco construction, $55,000. GENERAL CONTRACTOR: Harry J. Finkenstein, Fresno.

MARK TWAIN JR. HIGH SCHOOL—MODESTO, STANISLAUS COUNTY: Modesto Board of Education, Modesto, owner; 16 classrooms, administration, domestic science, science rooms, art, music, shower & dressing rooms, shop, & toilet rooms; frame & stucco construction, concrete floors, radiant heating. ARCHITECT: Swartz & Hyberg, Fresno. GENERAL CONTRACTOR: (Complete Job) $559,861; Harris Constructian Company, Fresno.

FIREHOUSE, GARAGE & POLICE LOCKUP, Oakland, Alameda County; City of Oakland, owner; frame and stucca, $38,525. GENERAL CONTRACTOR, Steadman & Powell, Oakland.

NEW LIGHTING FIXTURES. M. H. de Young Memorial Museum, San Francisco; Public Utilities Commissian, City & County of San Francisca, Owner; Installatian of new lighting fixtures, $5,857. ELECTRICAL CONTRACTOR, Manning & Whitaker, San Francisco.

WAREHOUSE BUILDING, Warm Springs, Alameda County: Laclede-Christy Company, owner; $23,000. GENERAL CONTRACTOR, McClary-Davis Company, Oakland.

BARTLETT JUNIOR HIGH SCHOOL ADDITION. Porterville, Tulare county: Porterville Elementary School District, owner; Frame and stucco, $71,213. ARCHITECT, Ernest L. McCoy, Bakersfield. GENERAL CONTRACTOR, Ralph Utter, Tulare.

SIXTEEN RESIDENCES, Redwood City, San Matea county: Gus Moeller & Sons, owner; Frame construction, $12,500 each. ARCHITECT, C. O. Clausen, San Francisco. GENERAL CONTRACTOR, Arnesen Construction Company, San Francisco.

STORE BUILDING, Hayward, Alameda county: Tony Gomes, owner; One story, $25,000. GENERAL CONTRACTOR, Carl C. Disney, Hayward.

MEDICAL BUILDING REMODEL, Oakland, Alameda county: Dr. Calvin, owner; Remodel residence into three suites of offices, $22,222. ARCHITECT, Reynolds & Chamberlain, Oakland. GENERAL CONTRACTOR, Steadman & Powell, Oakland.

STORE BUILDING. Oakland, Alameda county: Cadelco Corparation, owner; $55,000. GENERAL CONTRACTOR, Plymauth Construction Campany, Oakland.

GRAMMAR SCHOOL ADDITION, Sanora, Tuolumne county: Sonora Elementary School District, owner; Concrete block, some structural steel and frame, $38,888. ARCHITECT, Earl R. MacDonald, San Francisco. GENERAL CONTRACTOR, Moore & Moore Construction Company, Stockton.

SWIMMING POOL, Petaluma, Sonoma county: Petaluma Board af Education, owner; Reinforced concrete, $155,010. ARCHITECT, Robert Stanton, Carmel. GENERAL CONTRACTOR, Wm. D. Rapp, Santa Rosa.

NEW GRAMMAR SCHOOL, Antioch, Contra Costa county: Live Oak Unified School District, owner; Structural steel frame, concrete block, and frame, asbestos shingle roof, 257,800. ARCHITECT, Kump & Falk, San Francisca. GENERAL CONTRACTOR, Wallace D. Harkins, Oakland.

NEW CHURCH & SUNDAY SCHOOL & REMODEL & ADDITION to present building, Menlo Park, San Mateo county: Menlo Park Presbyterian Church, owner; Frame and stucca; gas and forced hot-air heating, wood shingle roof, $201,000. ARCHITECT, Leslie I. Nichals, Palo Alto. GENERAL CONTRACTOR, Arthur Bros., San Matea.

RESTAURANT BUILDING REMODEL, San Jase, Santa Clara county: Louis Village Restaurant, owner; One story frame and stucca, $25,000. GENERAL CONTRACTOR, E. A. Hathaway, San Jose.

STORE AND APARTMENT BUILDING, San Jase, Santa Clara county: Louis Village Restaurant, owner; Twa story reinforced concrete and frame, $75,000. GENERAL CONTRACTOR, Gagliardi Construction Company, San Jose.

ALTERATIONS AND NEW STEAM TURBINE GENERATING UNIT, San Francisco: Department of Public Works, City and County af San Francisca, owner; Electric work service feeder, $104,444. ELECTRIC CONTRACTOR, Pacific Electric & Machine Campany, San Francisco.

COVINGTON ELEMENTARY SCHOOL, Las Altas, Santa Clara county: Las Altas Elementary School District, owner; Twelve classrooms, offices, toilets; frame and stucco, concrete floors, radiant heating, $168,-143. ARCHITECT, Lawrence W. Gentry, Las Altas. GENERAL CONTRACTOR, N. A. Lamb, Campbell.

VERDE GRAMMAR SCHOOL, San Pablo, Contra Costa county: San Pablo Elementary School District, owner; Nine classrooms, kindergarten, office, and toilets; one story frame and stucca, brick veneer, $169,-600. ARCHITECT, Dragon, Schmidts, & Hardman, Berkeley. GENERAL CONTRACTOR, Marvin E. Callins, Richmond.

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IN THE NEWS

RIVERSIDE INDUSTRIAL BUILDINGS COMPLETED

Some 55,000 square feet of industrial buildings for the Hunter Douglas Corporation of Riverside (California), under construction by Hanson & Miske, Inc., contractors is nearing completion.

Construction is of reinforced concrete, tilt-up panels, steel rigid frame, corrugated roofing and siding with precast concrete panels to window height.

STATE AND FEDERAL HOSPITAL FUNDS

A combined State of California-Federal grant of $422,430 has been approved for preliminary work in conjunction with the construction of a new Merch Hospital Building in Redding, California.

The hospital when completed will cost $1,200,000 and provide 75-beds, and will be a part of the Sisters of Merch Hospital of Sacramento.

Harry J. Devine, Sacramento, is the architect. The building will be of 4-story, reinforced concrete construction.

GRAMMAR SCHOOL BOND ELECTION

Voters of the Ross Elementary School District, Ross, California, will go to the polls February 14th to determine whether bonds in the amount of $49,000 shall be issued for the construction of an addition to the Ross Grammar School.

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FUNDS ALLOCATED MENTAL HOSPITAL

The State of California has allocated some $9,060,940 for the construction of new maximum security facilities at the State Mental Hospital near Atascadero in San Luis Obispo county.

At the same time $2,000,000 was appropriated for construction of an addition to the Mendocino State Hospital at Talmadge near Ukiah.

NEW MEXICO SALES MANAGER APPOINTED

Lou Hoffman of Albuquerque, has been appointed sales representative of the Automatic Control Company, St. Paul, Minnesota, Liquid level control manufacturer for the New Mexico territory.

NEW HIGH SCHOOL BASKET BALL COURT

The Sacramento (California) Board of Education, through architect Harry J. Devine of Sacramento, have under way the construction of a new basket ball pavilion at the Sacramento High School.

Of reinforced concrete and structural steel construction, the building will have complete roof trusses Estimated cost of the project is $400,000

APPOINTED MANAGER APPLIANCE SALES

Charles M. Rowland has been appointed Los Angeles manager of appliance sales for the General Electric Company, according to a recent announcement by H. G. Smith, Pacific district manager of appliance sales.

Rowland joined the GE Supply Corporation organization at Cleveland in 1936 and comes to the Coast from Bloomfield, N. J. where he has been sales manager of the company's packaged commercial refrigeration division.

PLUMBING AND HEATING INDUSTRIES BUREAU

John M. Dumser, Waterbury, Conn.; C. E. Lewis, Milwaukee, Wis.; and G. C. Bulkekey, Abingdon, Ill., have been appointed to the board of directors of the Plumbing and Heating Industries Bureau and thereby completing the twenty directors who will serve the association during 1950.

EXPANSION AT CALIFORNIA MARITIME ACADEMY

The California Maritime Academy at Vallejo will expand facilities to include a new classroom, dormitory and administration building of one and two story reinforced concrete construction, according to a recent announcement by architects Clark and Stromquist of Palo Alto.

NEW COURT HOUSE BUILDING

The county of Siskiyou is planning for the construction of a new county courthouse in Yreka in the near future.

Estimated cost of the two story, reinforced concrete, building is $300,000.

ADDITIONAL HOMES FOR SAN LORENZO VILLAGE

The Greenwood Corporation of San Lorenzo (California) developers of San Lorenzo Village near Oakland, have announced the construction of an additional fifty-eight residences at an estimated cost of $6700 each.

According to D. D. Bohannon Organization, general contractor, the homes will be of frame and stucco construction.

ARCHITECT SELECTED FOR LINCOLN SCHOOL

Jomes H. Mitchell, architect of San Francisco, has been selected as the architect for the Lincoln grammar school addition at Burlingame (California). The addition will consist of a four-room frame and stucco classroom addition to the present school buildings.

ARCHITECT SELECTED FOR CFFICE BUILDING

Architect Hollis Logue, Jr., of San Jose, has been selected as the architect for a new two-story, reinforced concrete office building which is to be built in San Jose, according to a recent announcement by the owner of the project.

NEW RESIDENTIAL DEVELOPMENT

The Mack Construction Company of Berkeley (California) recently announced the construction of sixty new houses near San Pablo, Contra Costa County.

Of frame construction the houses will cost approximately $6000 each, according to Earl V. Smith, general contractor.

ADDITIONS PLANNED FOR TUBERCULAR HOSPITAL

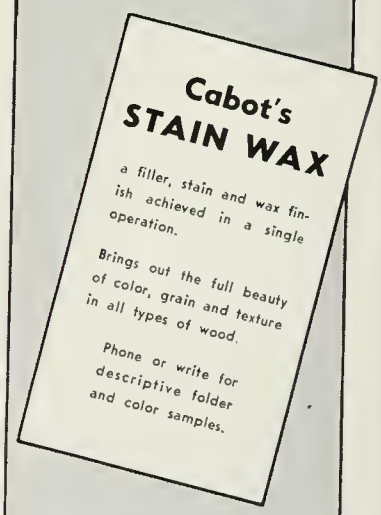
The County of San Mateo has announced the proposed construction of a 100 bed tubercular hospital near Redwood City, to be built at a cost of $1,500,000.

According to D. D. Stone and L. Mulloy, architects of San Francisco, the building will be of three-story, reinforced steel and concrete construction.

SEWAGE TREATMENT BOND ELECTION

The voters of San Jose (California) will go to the polls on May 15 to vote on the

UN. 1-5480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proposed issuance of $3,900,000 in bonds for the purpose of constructing a sewage treatment plant.

SCHOOL BOND ELECTION

The St. Helena Unified School District, St. Helena, California, will hold a special election on March 21 for the purpose of building a new grammar school and making an addition to the high school.

The district will submit a $430,000 project to the voters.

NAMED TO NEW SEATTLE POST

E. J. Gottula, sales engineer in the San Francisco area for the Soule Steel Company, has been appointed district manager of the company's operations in Seattle, according to a recent announcement by E. B. McClure, general sales manager.

Gottula, an engineering graduate of the University of Colorado, served as an air corps officer during the late war.

APPOINTED TO STAFF OF CONSTRUCTION CO.

Carter Darnell has been appointed to the executive staff of the Aldon Construction Company of Los Angeles, according to Albert Leighton, president.

Darnell will handle purchasing, expediting and co-ordination on a $20,000,000 home building program scheduled by the company in the Lakewood and Norwalk areas.

BONDS VOTED FOR NEW HIGH SCHOOL

Voters of the Hamilton Union High School District of Hamilton City (California) have approved the issuance of $120,000 in bonds for the construction of an addition to the Hamilton City high school.

The additions will consist of a gymnasium, home making unit, and shop building of frame and stucco construction.

Koblik and Fisher of Sacramento are the architects.

SCHOOL BONDS ARE APPROVED

Voters of the Carmichael elementary school district in Sacramento County (California), recently approved the issurance of $72,000 in school bonds for the construction of an addition to the Carmichael grammar school.

Raymond R. Franceschi of Sacramento is the architect.

AWARDED PORTLAND APARTMENT PROJECT

The Republic Construction Corporation of Los Angeles has been awarded a contract to build a 14-story apartment building in Portland, Oregon.

The building will be the largest apartment house in Portland and will cost approximately $3,000,000 according to the Park Avenue Investment Corporation of Seattle, owners.

ELECTED PRESIDENT OF LUMBER MANUFACTURERS

H. M. Seaman, Texas lumber manufacturer and president of the Southern Pine Association, has been elected president of the National Lumber Manufacturers Association of America.

GRAMMAR SCHOOL BONDS APPROVED

The Kentfield Elementary School District, Marin county (California) will build a new grammar school building in Greenbrae as the result of voters recent approval of a $87,000 school bond issue.

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Planning

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Book Reviews

COVER PICTURE:

Among the recently completed industrial plants in the San Francisco-Oakland bay area, built by Haas & Rothschild General Contractors, is the $1,000,000 Crown-Zellerbach Corporation new factory and office building for the Western Waxed Paper Division at San Leandro, California. SEE STORY on Page 18.

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. EDITORIAL NOTES .

PAUL REVERE IS NEEDED

Every American should become a Paul Revere this year and carry the "light of democratic understanding" against bureaucratic government planning and the increasing political pap of the something-for-nothing philosophy of government.

Americans have a chance at the elections this year to begin at the political grass roots to stop the swing towards socialism and high government costs. Every citizen should remind your fellow citizen that today they are working one day out of every three for government; endeavor to visualize the unpleasant fact that only twenty-seven out of every forty hours worked represent income for yourself and family (the other thirteen hours you work for payment of taxes).

Government today is the nation's biggest employer with over 2,000,000 people on its payroll, and over 16,000,000 others receiving benefit checks.

This great country is not falling apart at the seams, but without question American citizens are faced with the greatest and fastest evolution of government in history, and the eventual results are the responsibility of each and every citizen.

* * *

CHARACTERISTICS OF HOUSES TO COME

The "characteristics" of new houses to come during the next half century are beginning to be recognized already, and according to numerous authorities, tomorrow's homes will feature the "home" as the center of family attractions.

With the turn of the century, the automobile and motion picture theatre easily attracted family interest as they afforded some diversity and relaxation from the somewhat drab routine of every day living.

Congested highways, frequent accidents, inadequate parking facilities have diminished the appeal of many forms of entertainment. On the other hand television, larger "living" areas, and a host of modernized, drudge eliminating home appliances have reversed the first-half century trend and ahead lies a re-established interest in the American home as the great center of attraction.

* * *

FHA REPORTS ON HOUSING

According to reports from its sixty-eight field offices scattered throughout the nation, 1949 proved to be the biggest year in the sixteen-year-old history of the Federal Housing Administration.

The newly established high records included 1) the number of unit applications received, 2) the number of home units started, 3) the number of home units completed, and 4) the number of home units whose mortgages were insured under the FHA plan, and according to administration reports the totals "exceeded by substantial margins the totals for any year in FHA's history."

While there are a number of logical answers to the establishment of this impressive all time record-high, we are inclined to believe that one of the major factors is the increasing interest among prospective home owners in lower-cost housing.

An ever increasing national population faced with meeting a considerably adjusted postwar economy, is of necessity faced with the practical every-day problems of cost, and any avenue offering a means of acquiring those things most desired, whether it be by government agency, or otherwise, will naturally show increasing activity.

The capacity to pay is the measuring stick of most family purchases.

* * *

EVERY minute in the United States two houses are built, seven babies are born and ten automobiles are produced . . . the life expectancy of the house is 100 years, the baby 66.8 years, and the automobile 8.4 years. NOW, you statisticians have fun.

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THE GOOD OLD HABIT—THRIFT

That heritage of priceless value handed down to present day Americans from their forefathers seems to have burgeoned forth again with greater zest than ever before with billions of dollars being invested in U. S. Savings Bonds, Life Insurance, and Savings Accounts.

In a recent report on the subject, John W. Snyder, Secretary of the Treasury, shows that individuals have increased their holdings of government Savings Bonds alone by more than 13 per cent since the start of 1946. During the same era, individuals increased their shareholdings in Savings and Loan Associations by over 60 per cent; Life Insurance by 30 per cent; deposits in Mutual Savings Banks by 25 per cent; deposits in savings accounts in Commercial Banks by 15 per cent; Checking Accounts 10 per cent; and Postal Savings by 10 per cent.

Of the various forms of liquid savings, only currency holdings in the hands of individuals declined.

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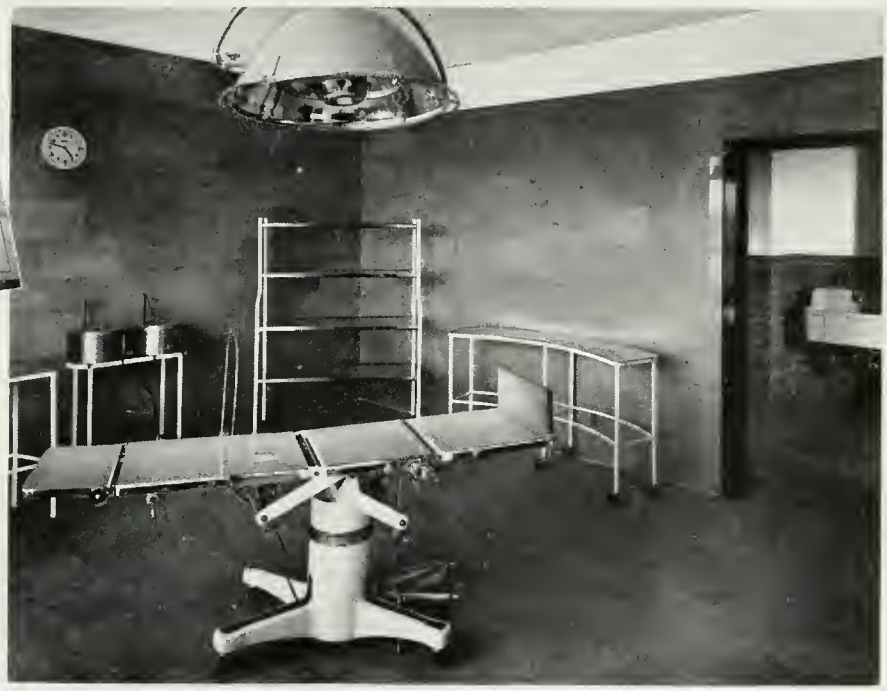

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Willow Glen High School, San Jose
Morsh, Smith & Powell, Architects

The unprecedented population growth of the West during the past 10 years has been dramatically illustrated by the vast increase in school attendance figures. The resulting need for additional educational facilities has placed the building of schools among the most urgent public tasks confronting western communities.

Farseeing school authorities are meeting this challenge by authorizing the construction of new schools as rapidly as public funds are made available. The total cost of new educational facilities completed since the war exceeds that of any previous period by a substantial amount. Many new structures are scheduled for completion during the next year. They represent an outstanding example of foresight and faith in the future of the West.

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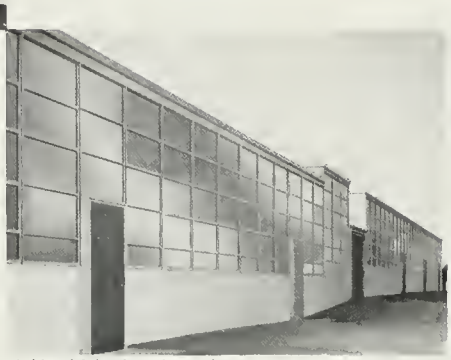
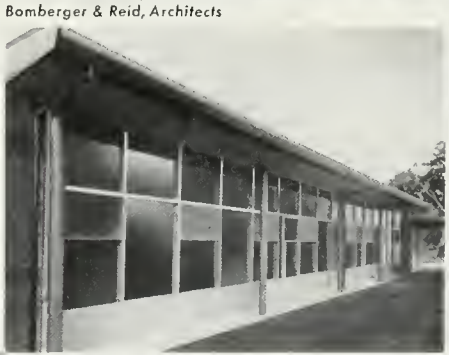


Highland School, Inglewood
H. L. Gogerty, Architect

Arvin High School, Bakersfield
Ernest L. McCoy, Architect

Yolansdole School, San Anselmo
Bomberger & Reid, Architects

Sylvan School, Modesto
Fred L. Schwartz & Wm. G. Hyberg, Architects



Woodside School, Woodside
Clark & Beuttler, Architects

Carmel School, Carmel
Kump & Falk, Architects

ARISTON STEEL WINDOWS

SCHOOL NAME	LOCATION	ARCHITECT
YEAR 1945		
Beresford School	San Mateo, California	Franklin, Kump & Falk
Orinda School	Orinda, California	E. J. Kump
San Joaquin Mem. High Schol	Fresno, California	David Horn
YEAR 1946		
Coalinga School	Coalinga, California	W. D. Coates
Holy Redeemer School	Fresno, California	Howard L. Kegler
Jefferson School	Wasco, California	Fred E. Knight
Jefferson School	Selma, California	W. D. Coates
Lakeside Union School	Bakersfield, California	Frank Wynkoop
Lincoln Elementary School	Redwood City, California	E. J. Kump
Marin Junior College	Kentfield, California	Arnold Constable
Pomona College	Claremont, California	Allison & Rible
Rio Bravo School	Kern County, California	C. H. Biggar
San Joaquin Mem. High School	Fresno, California	Howard L. Kegler
YEAR 1947		
Antioch Live Oak School	Antioch, California	E. J. Kump
Arvin School	Bakersfield, California	Frank Wynkoop
Avenal Elementary School	Avenal, California	Frank Wynkoop
Barstow High School	Barstow, California	E. J. Kump
Burbank Senior High School	Burbank, California	John C. Austin
Carmel School	Carmel, California	E. J. Kump
Del Mar Elementary School	Fresno, California	Franklin & Simpson
El Crystal Elementary School	San Bruno, California	Masten & Hurd
Fairview School	Hayward, California	Anderson & Simonds
Glendale Junior College	Glendale, California	G. M. Lindsey
Kirk School	Fresno, California	City of Fresno
Manteca High School	Manteca, California	Harry Devine
Menlo School & Junior College	Menlo Park, California	
Oildale School	Oildale, California	C. H. Biggar
Petaluma High School	Petaluma, California	Robert Stanton
Placer Union High School	Auburn, California	Kent & Haas
Porterville Union High School	Porterville, California	W. D. Coates
Roosevelt School	Fresno, California	Lake & Hastrup
St. Joseph School	San Jose, California	J. Clarence Felciano
John Swett High School	Oakland, California	Dragon, Schmidts & Hardman
Texas A. & M.	El Paso, Texas	Percy McGhee
University of California	San Francisco, California	Division of Architecture
Weaver School	Merced, California	Frank Wynkoop
YEAR 1948		
Acalanes High School	Lafayette, California	Franklin, Kump & Falk
Airport Elementary School	Modesto, California	Swartz & Hyberg
Almaden Grammar School	San Jose, California	Franklin, Kump & Falk
Arden Elementary School	Sacramento, California	C. F. Dean
Arvin High School	Arvin, California	E. L. McCoy
Avenal High School	Avenal, California	Horn & Mortlund
Burlingame High School	Burlingame, California	Mitchell & Hawes
California School for Blind	Berkeley, California	State of California
California School for Deaf	Berkeley, California	State of California
Calwa School	Fresno, California	Walter Wagner
Carruthers Elementary School	Carruthers, California	W. Hastrup
Castro Lane School	Bakersfield, California	C. H. Biggar
Central Union High School	Fresno, California	W. Wagner
College of Pharmacy	Manila, Philippine Islands	
Columbus & River School	Bakersfield, California	E. L. McCoy
Corcoran Union High School	Corcoran, California	H. L. Gogerty
Edison High School	Fresno, California	Philip S. Buckingham
Grandview School	Dinuba, California	R. C. Kaestner
Greeley School	Greeley, California	E. L. McCoy
Herndon Elementary School	Herndon, California	Frank Wynkoop
Highland School	Inglewood, California	H. L. Gogerty
Holtville High School	Holtville, California	Albert E. Hanson
Lawrence School	San Mateo, California	E. J. Kump
Lone Star School	Fresno, California	Horn & Mortlund
Longfellow School	Bakersfield, California	C. H. Biggar
Mayfair School	Fresno, California	Franklin & Simpson
Meiners Oaks School	Ojai, California	Maynard Lyndon
Panama School	Bakersfield, California	Wright, Metcalf & Parsons
Paso Robles High School	Paso Robles, California	Frank Wynkoop
Philippine School of Commerce	Manila, Philippine Islands	
Riverdale Joint Union High School	Riverdale, California	Frank Wynkoop
Rosemead High School	El Monte, California	Kistner, Curtis & Wright
Theodore Roosevelt School	Compton, California	H. L. Gogerty
Sacred Heart School	Redlands, California	Barrer & Ott
St. Angela's School	Pacific Grove, California	Robert R. Jones
St. Augustin College	Manila, Philippine Islands	
St. Helen's School	South Gate, California	Kausor Bros.
Shafter High School Cafeteria	Shafter, California	Wright, Metcalf & Parsons
Sierra Joint Union High School	Auberry, California	Franklin & Simpson

See the ARISTON STEEL WINDOW advertisement on pages 4 and 5.

have been installed in all these schools:

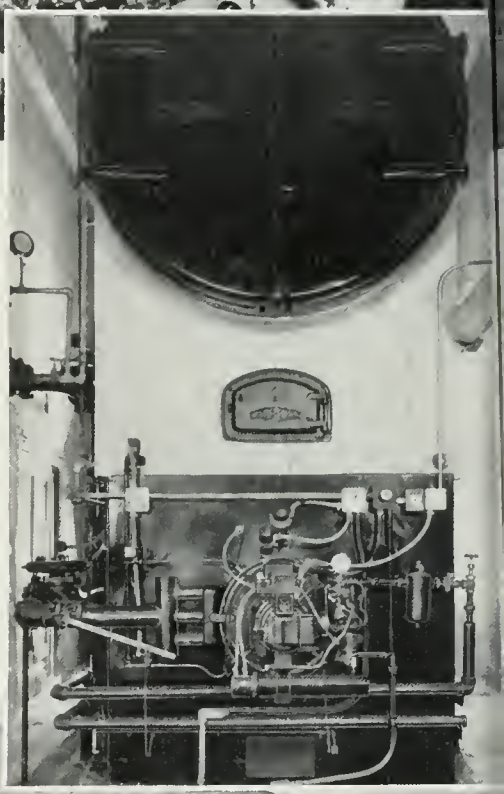
SCHOOL NAME	LOCATION	ARCHITECT
Teague School	Fresno, California	Franklin & Simpson
Tranquility Elementary School	Tranquility, California	Franklin & Simpson
Wasco Primary School	Wasco, California	C. H. Biggar
Wasco Union High School	Wasco, California	Franklin, Kump & Falk
Washington School	Burlingame, California	J. H. Mitchell
Whisman Elementary School	Mountain View, California	Thomsen & Evans
Woodlake School	Woodlake, California	David Horn, Assoc.
Woodside School	Woodside, California	Clark & Beuttler
Yolandsdale School	San Anselmo, California	Bamberger & Reid
YEAR 1949		
Alma College	Alma, California	Paul Ryan & John Lee
Louis Barrett School	Belmont, California	Ponsford, Price & Conter
Baywood Grammar School	San Mateo, California	W. Taepke
Bella Vista School	Oakland, California	Reynolds & Chamberlain
Bellview School	Porterville, California	Alford & Thomas
Bonneville Elementary School	Bonneville, Utah	Ashton & Evans
Buena Vista School	Kern County, California	Alford & Thomas
Burbank Grammar School	Oakland, California	Audspetch & Cerruti
California Avenue School	Riverbank, California	Anderson & Simonds
Campbell Multi-Purpose School	Campbell, California	Kump & Falk
Catholic Union High School	Greenbrae, California	Minton & Smith
Corcoran Union Elementary School	Corcoran, California	Frank Wynkoop
Crozier School	Inglewood, California	H. L. Gogerty
Edison Elementary School	Kern County, California	E. L. McCoy
Esparto Elementary School	Esparto, California	W. D. Peugh
Fallbrook Intermediate School	Fallbrook, California	C. J. Paderewski
Gardner School	San Jose, California	Richards & Logue
Greenfield Elementary School	Kern County California	E. L. McCoy
George Hall Grammar School	San Mateo, California	Kump & Falk
Healdsburg High School	Healdsburg, California	Kump & Falk
Hilmar Union High School	Hilmar, California	Robert C. Kaestner
Hillsborough Elementary School	Hillsborough, California	Kump & Falk
Hollenbeck Junior High School	Los Angeles, California	Ellis Wing Taylor
Herbert Hoover School	Redwood City, California	Kump & Falk
Julian High School	San Diego, California	Paderewski, Mitchel & Dean
Leuzinger High School	Lawndale, California	H. L. Gogerty
Lincoln School	Tulare, California	R. C. Kaestner
Livingston Elementary School	Livingston, California	Frank Wynkoop
North Elementary School	Corcoran, California	Frank Wynkoop
Orosi Elementary School	Orosi, California	R. C. Kaestner
Pajaro Valley Elementary School	Watsonville, California	Easterly, Hall & Ellenwood
Palo Verde School	Tulare, California	R. C. Kaestner
Quincy Junior High School	Quincy, California	Thomsen & Evans
Ray Park School	Burlingame, California	Mitchell & Hawes
Red Bluff High School	Red Bluff, California	Thomsen & Evans
Riverview School	Firebaugh, California	Swartz & Hyberg
Rosedale School	Kern County, California	E. L. McCoy
Roosevelt School	Tulare, California	Frank Wynkoop
St. Agnes Gymnasium	San Francisco, California	Minton & Smith
St. Albert the Gr. Dom. Hse.	Oakland, California	Arnold Constable
St. Anselm's Convent	San Anselmo, California	Minton & Smith
St. Jude's Parochial School	San Diego, California	C. J. Paderewski
St. Patrick's Parish School	San Francisco, California	Otto Winkler
St. Patrick's Seminary	Menlo Park, California	Blanchard, Maher & Paulus
St. Stanislaus School	Modesto, California	Minton & Smith
San Luis Obispo High School	San Luis Obispo, California	Kump & Falk
San Mateo Union High School	San Mateo, California	Kump & Falk
Santa Rosa Junior College	Santa Rosa, California	J. C. Felciano
Sanger Union High School	Sanger, California	Swartz & Hyberg
Semi-Tropic School	Kern County, California	E. L. McCoy
Shoreview Elementary School	San Mateo, California	Kump & Falk
Short School	San Rafael, California	Kirby & Mulvin
Sierra Union Elementary School	Tall House, California	Franklin & Simpson
So. Franklin Elementary School	Modesto, California	Swartz & Hyberg
Sunset School	Coalinga, California	Coates & Metz
Sylvan School	Stanislaus County, California	Swartz & Hyberg
Taft Union High School	Taft, California	E. L. McCoy
Tennyson Elementary School	Hayward, California	Thomsen & Evans
Tracy High School	Tracy, California	Kump & Falk
Tranquility Union High School	Tranquility, California	Coates & Metz
University of Santa Clara Walsh Hall	Santa Clara, California	Binder & Curtis
University of Southern California	Los Angeles, California	Division of Architecture
Vista School	Vista, California	Maynard Lyndon
Washington School Cafeteria	San Jose, California	C. E. Butner
Washington School	Sanger, California	Swartz & Hyberg
Washington School	Susanville, California	R. C. Kaestner
Westfield Elementary School	Porterville, California	Alford & Thomas
Westside School	Lancaster, California	Frank Wynkoop
Willow Glen Jr. & Sr. High Schools	San Jose, California	Marsh, Smith & Powell
Woodrow Wilson School	Oxnard, California	Roy C. Wilson

Michel & Pfeffer Iron Works, Inc.

N. K. JUVET, Manager Steel Window Division

Tenth and Harrison Streets, San Francisco 3, Calif.

Telephone MArket 1-5966

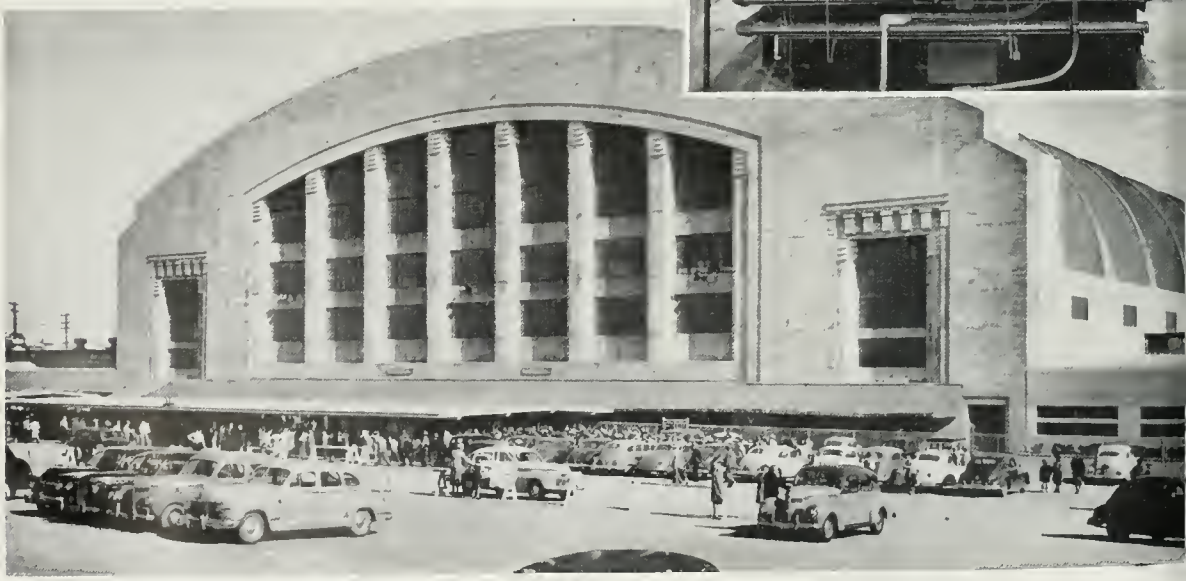


A single JOHNSON OIL BURNER keeps 19,600 people warm in San Francisco's famous "Cow Palace"

Heating a vast indoor arena like San Francisco's amazing "Cow Palace" is a man-size job. Under its wide arching roof, as many as 19,600 spectators can be seated to watch rodeos, horse shows, circuses, prizefights, basketball games and Grand National Livestock Expositions.

A single Johnson Burner is doing the job. It is an automatic 400 HP Johnson Rotary Oil & Gas Burner which can be operated on either heavy fuel oil or gas. Mounted in a Birchfield Boiler, it supplies hot water to fan-driven space heaters. Installation was made by Crowley Co., Plumbing and Heating Contractors of San Francisco.

For nearly half a century Johnson Burners have been heating great buildings all over the world. You'll find them supplying dependable low-cost heat in thousands of schools, hotels, hospitals, churches and skyscrapers . . . and in countless private homes as well. If you have a heating problem, see your nearby Johnson Dealer or write to S. T. Johnson Co., 940 Arlington Ave., Oakland 8, Calif. or 401 No. Broad St., Philadelphia 8, Pa.



OHNSON CO. ERECTS NEW STEEL FABRICATING & ASSEMBLY PLANT

PIONEER BUILDERS OF OIL BURNERS EXPAND MANUFACTURING FACILITIES IN OAKLAND

To meet an urgent demand for greater manufacturing capacity, the S. T. Johnson Co. has recently completed a new steel fabricating and assembly plant at 925 Stanford Ave. in Oakland. This new structure is adjacent to its main plant on Arlington Ave., the two buildings being separated only by a narrow intervening street.

The new building will be used primarily for the fabrication of shells and jackets, and for the final assembly of complete units of the boiler-burner and conditioned-air types. Construction and machining of the actual burners will be done in the main plant.

The new unit is steel frame construction with brick and corrugated asbestos cement siding, and composition roof. It provides 17,460 sq. ft. of floor space on the main floor and 6400 sq. ft. on the mezzanine.

The J. Y. Long Co. engineers, and Jesse Johnson, President of S. T. Johnson Co., drew the plans for the new building with the aim in mind of achieving a smooth flow of materials and assembled units through the plant as they underwent the various processes of shaping, welding, assembling, enameling, crating and shipping. To facilitate these "production-line" operations the plant has been equipped with overhead traveling cranes for handling heavy steel plates; an overhead conveyor system which provides uninterrupted flow of units and parts being processed, enameled and baked; roller conveyors for handling assembled units. As a result of this careful planning, lifting and handling of heavy materials and parts has been virtually eliminated.

The design and construction of the enameling oven present several interesting engineering features. The oven is "direct fired", i.e., the combustion gases from an oil-fired Johnson Burner furnace are piped directly into the oven where they circulate about the painted units that are travelling on an endless overhead conveyor. At the bottom of the oven, the partially cooled gases are drawn back down to the furnace by an electrically driven fan. Heat losses and fuel consumption

Main factory building and offices at 940 Arlington Ave. where the manufacturing of burners will be done. The new building is situated immediately at the rear.

are thus reduced to a minimum. It is significant that the combustion gases from a Johnson Oil Burner are clean enough to be used in direct contact with newly painted surfaces without danger of discoloration.

Heat for the new building is provided by two of the Johnson Company's "Econolux" boiler-burner units, each of which has a 20 HP-669,000 BTU capacity. They generate steam which is piped to fan-driven unit heaters throughout the plant. Installation of the heating system was done by the Pacific Heating and Ventilating Co. of Oakland. General construction of the building was handled by Harry K. Jensen, Oakland. Fluorescent lighting fixtures have been installed to supplement the abundant daylight from multiple sidewall windows.

Office space and a "north-lighted" drafting room occupy a part of the mezzanine, and on the ground floor, offices have been provided for various sales and administrative activities which were formerly housed in the main building.

The completion of this new building marks the beginning of another chapter in the growth of this pioneer California industry, which has been so signally successful in selling California-made heavy equipment in a nationwide market despite the adverse shipping costs which favor eastern manufacturers in the competition for eastern sales.

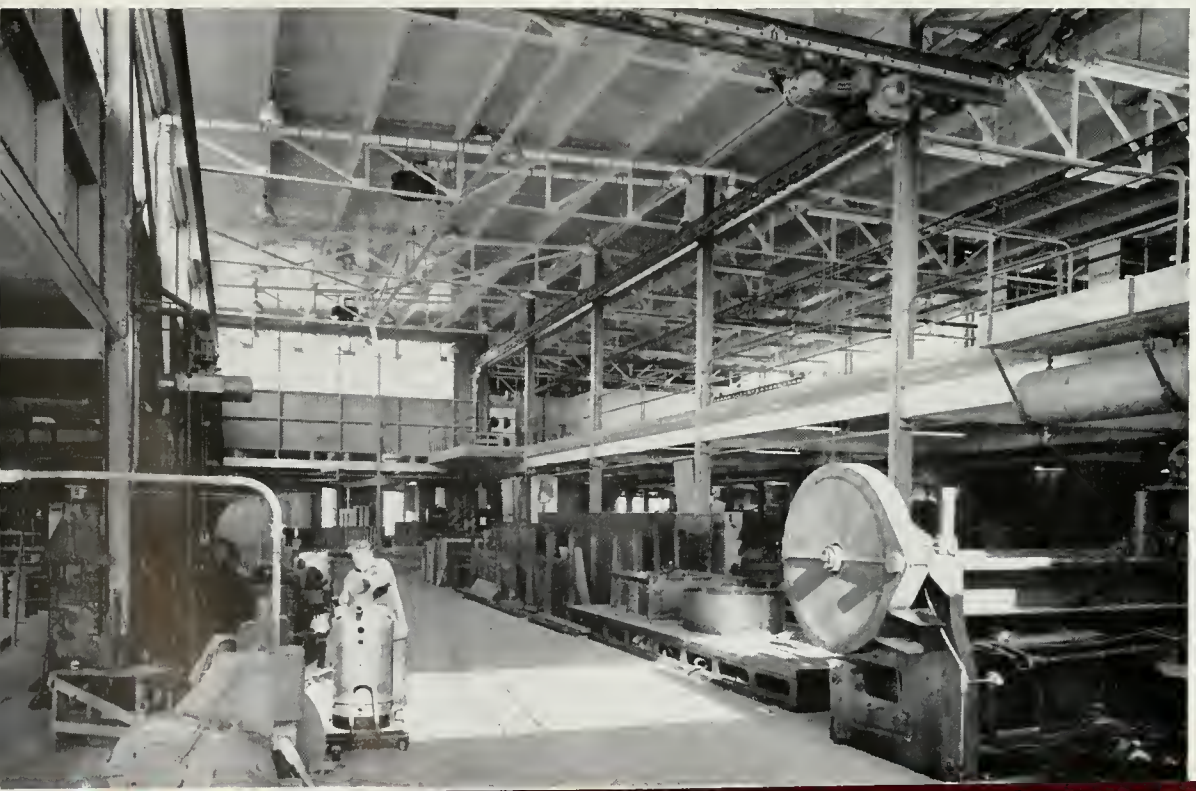
Starting, in 1903, as a two-man shop in Oakland engaged in making a "new-fangled" oil burner for bakers' ovens, the S. T. Johnson Co. has grown to be one of the major elements in a vast world wide industry—the production of oil burners. Today burners built in Oakland by Johnson are heating homes, hotels, hospitals, skyscrapers and public buildings all over the Americas and in many other lands.

Though it is not generally known, the San Francisco bay area was virtually the cradle of the oil-burner industry. It was here that modern oil burning techniques were first developed. The cheapness and the abundance of heavy residual oils available in California acted as a spur and a challenge to inventive minds that sought to improve the crude wick-type and vaporizing-type techniques which had been used with doubtful success up to the beginning of this century.

One of those men was S. T. Johnson, the founder of the company that still bears his name. Jesse Johnson, who has headed the company since 1920, started experimenting with power driven burners which atomized the fuel oil and mixed it with a fan driven spray of air. This method made it possible to burn the atomized oil while it was literally suspended in air, a process that resulted in clean, complete combustion and produced a strong sootless flame that utilized all the latent heat potentialities in the oil.

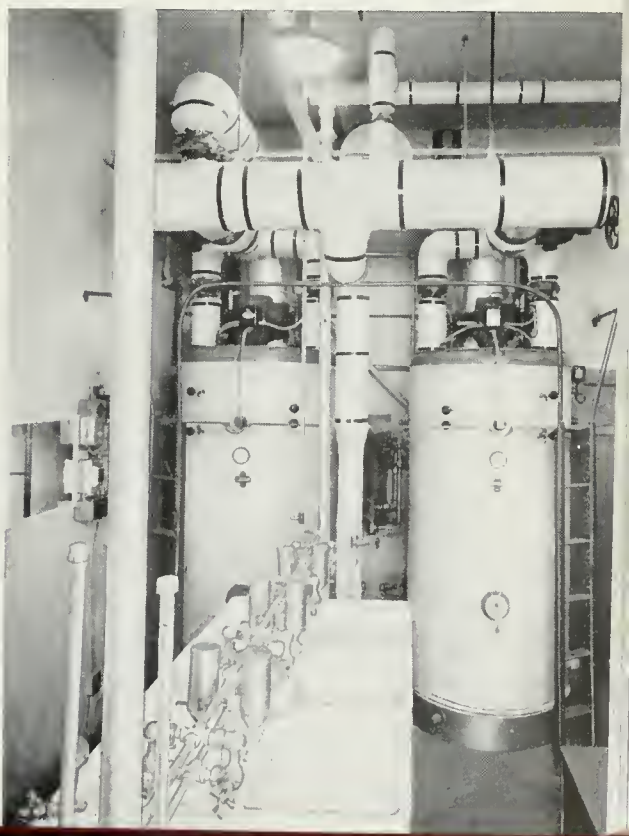
In basic principle, the pressure-atomizing technique is the process most commonly used even to this day. From that modest early beginning, Johnson Oil Burners have been steadily carried ahead to a degree of efficiency, safety and automatic perfection that is known and respected throughout the world. Many of the outstanding improvements in oil burner design and construction are the product of Johnson research and engineering under

Interior of the new Johnson building, showing the main bay in which heavy plate steel fabricating is done.



Drafting Room of the Johnson Engineering Dept. in new building.

Combination Boiler Room and Wash Room showing the compact arrangement of the two Johnson "Econolux" Boiler-Burners which supply steam and hot water for new building.



the leadership of Jesse Johnson. In recognition of his contributions to the oil heat industry, the Oil Heat Institute of America elected him president as early as 1928.

Closely associated with the growth of the company is another key man, Leo Jacobs, Vice President and Treasurer, who has been with the company almost from the beginning. To a very large degree Mr. Jacobs has been responsible for its sound financial growth and a nationwide dealership program that has weathered two wars, depressions and all the other tests of good management which have come along in nearly half a century.

Others who have practically grown-up with the Johnson Company and hold positions of responsibility today are: Howard Sherman, Secretary; E. E. Jensen, Sales Manager; Al Dimick, Chief Engineer; Dan Johnson, the son of J. C. Johnson, Production Manager; Robert Johnston, Mgr. of the Philadelphia Office, in charge of Eastern Sales and Service; Reed Cook, Purchasing Agent; Donald Macfarlane, Machine Shop Supt.; Ray Robb, Fabricating & Assembly Shop Supt.; Bill Trombly, Arthur Doolittle and Ralph White who manage the Johnson Branch Offices in San Francisco, Sacramento and San Carlos, California, respectively.

NEWS AND COMMENT ON ART

"RANCH HOUSE TREND"

A new conception of color and texture in American home fabrics is developing with the increasing nation-wide construction of the "ranch house" or modified one-story modern residence.

"The ranch house," according to Walter Puschel, production manager of F. Schumacher & Company, one of the world's larger decorative fabric houses, "puts the accent on open-living with a flowing space from room to room, and the decorating theme is simplicity. Emphasis in new fabrics for these particular homes is therefore on texture and vibrant color."

A new group of woven-textured fabrics, for example, are designed primarily for use in the rambling versions of the architectural style that originated on the West Coast and since has spread rapidly to other sections of the country.

These fabrics consist of three different nubby, woven textures, with each having a blend of dominant and subordinate shades of rich colors. Texture and color are similar to those inspired by the Southwest and in vogue for people who favor the modern interiors. An interesting matelasse has a raised modernistic design over a weave resembling homespun textures and is available in several background colors.

Another new fabric features an unusual modern texture obtained through the use of rayon, cotton and the non-tarnishable metal, lurex, and is also available in several colors.

While these new fabrics were styled primarily for ranch-house architecture, material and environment, they are also adaptable to any interior where fabric textures are the important feature to the homemaker.

SIXTH SAN FRANCISCO COLOR SLIDE SALON

The Sixth San Francisco International Color Slide Salon was held at the San Francisco Museum of Art in the War Memorial Building, Civic Center, on March 11, 13, 15, 16, 17, and 18 at 8 p.m.

The exhibition is being sponsored by the Photochrome Club of San Francisco and offers a wide variety of subjects.

THE MILLS COLLEGE ART GALLERY

An exhibition of Southwest Indian Art which includes the Kachinas pottery, rugs, basketry, and ceremonial objects will be shown at The Mills College Art Gallery in Oakland, through the month of March. The collection is on loan from the University of California as well as numerous private collectors.

A photographic exhibition on the life of the Navajo Indians will also be shown.

CITY OF PARIS

The City of Paris, San Francisco, has scheduled an exhibit of Water Colors by 39 artists from the 29th Annual Exhibition of the California Water Color Society, for showing in the Rotunda Gallery during March.

There will also be a group of quick water color sketches and portraits in oil and pastel by Lisel Salzer; and oils by Jean McReynolds.

PORTLAND ART MUSEUM

The Portland Art Museum, West Park and Madison, Portland, has scheduled a special exhibit of German Expressionisms and Concurrent Trends consisting of some 150 prints from the collection of Gordon W. Gilkey for the month of March.

Thomas C. Colt, Jr., director of the Museum, has also announced an exhibition of drawings by Rico Lebrun; Sculptures by Jean Arp; and a group of Paintings by Milton Wilson.

THE ART ALLIANCE OF PHILADELPHIA

The Art Alliance of 251 South 18th Street, Philadelphia, has announced a special exhibition of PHOTOGRAPHS and DRAWINGS of Recently Completed School Building to be held March 7th to April 11th.

At the same time an exhibit of MURAL SCROLLS by Alexander Calder, Henri Matisse, Matta Echaurren, and Joan Miro will be shown. Also a modern furniture exhibit by Lott-Neagle.

SOUTHERN CALIFORNIA COMMUNITIES SHOW LARGE CONSTRUCTION GROWTH

More than $781,356,000 worth of building permits were issued during last year by a group of fifty-one southern California communities.

The greater part of this new construction represented residences, new schools, churches and commercial buildings necessary to take care of the tremendous increase in population.

Figures show that for the city of Los Angeles building permits were somewhat less than in 1948 but that unincorporated territory of Los Angeles County showed a substantial gain in 1949 over 1948.

William J. Fox, chief engineer of the Los Angeles County Department of Building and Safety, reports that during the month of December the Whittier district office led all others in total permits of $4,367,280. The Bellflower district was second with a permit valuation of $3,182,330.

CALIFORNIA COUNCIL OF ARCHITECTS ELECT

FRANK V. MAYO
President

Frank V. Mayo, A.I.A., architect of Stockton, was elected president of the California Council of Architects at the triennial meeting of the orgonization in Santa Barbara early this year, succeeding Adrian Wilson, A.I.A., architect of Los Angeles.

Mayo has been very active in stimulating the architectural profession on the West Coast. He assisted in formation of the Central Valley Chapter of the A.I.A. and served as its charter secretary and has just completed serving two years as the Chapter's president. He has also served as a member of the Executive Board of the California Council of Architects and is Chairman of the American Institute of Architects By-Laws Committee.

Other officers elected at the meeting were Albert C. Martin, Jr., immediate past president of the Southern California Chapter, vice-president; and James H. Anderson, immediate past president of the East Bay Chapter, secretary-treasurer.

Considerable attention was given to the matter of allocation of State architectural work and a continuance of the program "to bring together all the various bureaus in charge of building codes and decrease overlapping codes."

ARCHITECT APPOINTED COLLEGE PROFESSOR

Konrad Wachsmann, Chicago architect and engineer, has been appointed professor in charge of advanced building research and design at the Institute of Design of the Illinois Institute of Technology, according to a recent announcement by Dr. John T. Rettaliata, dean of engineering.

Wachsmann is a recognized authority in the field of industrialization of building construction in the United States and Europe.

SAN FRANCISCO ARCHITECTURAL CLUB

The San Francisco Architectural Club has announced resumption of their Specifications Course covering the subjects of "The Architect and the Law", "Architect-Owner Relationships", "Contracts", "General Conditions", "Drawings and Specifications", "Supervision", and "Technical Specifications for Residential and Large Commercial Work."

Particular emphasis is being given to materials and methods of construction, and according to Michael J. Sweeney, instructor of the course and experienced specification writer, "Guest speakers will include many experts in their fields, and motion pictures of field trips will be shown."

LOS ANGELES ARCHITECT APPOINTED TO NATIONAL HOUSING CONSULTANTS

Robert Alexander, member of the Los Angeles City Planning Commission, has been appointed to a five-man board of Architectural Consultants to help guide the Public Housing Administration's huge, new 810,000 unit low rent housing program, according to a recent announcement by John Taylor Egan, Public Housing Commissioner.

The purpose of the Board will be to discuss and recommend ways and means to achieve better planning and design in public housing projects.

As a member of the architectural firm of Wilson, Merrill & Alexander, Alexander participated in the construction of the Baldwin Hills Village in Los Angeles.

UNIVERSITY OF OREGON'S LANDSCAPE ARCHITECTURE

The School of Architecture and Allied Arts at the University of Oregon was notified recently that full accrediting has been given to its curriculum in Landscape Architecture by the American Society of Landscape Architects.

Options in the curriculum lead to degrees in landscape architecture and urban planning.

LOS ANGELES COUNTY LEADS HOME BUILDING

Los Angeles county led the nation in residential construction volume in 1949, according to a recent report by Clifford L. Rawson, secretary-manager of the Home Builders Institute of Los Angeles.

The report disclosed that 75,317 dwelling units were completed during the year, representing 7½ per cent of the nation's total. Accommodations for some 291,264 persons was provided by the construction.

The Curling of Concrete Floor Topping And How to Prevent It

By J. E. JELLICK, Manager Portland Cement Information Bureau*

Good concrete floor finish should be level and free from bumps and hollows. This consideration requires that floors shall be finished properly in the first place and that they shall not curl or warp away from the base. Even under the rapid drying out action of highly heated interiors it is essential that no warping of the topping occurs. Smooth finishing is a relatively simple matter, avoidance of curling or warping is not so generally understood. With proper precautions however it is possible to avoid all curling even when the air is dry and warm.

Curling or warping of concrete floor finish is almost invariably associated with the differential drying of extremely rich mixes on top and excessively lean ones underneath. The thicker the floor topping the greater the difference in the rates of shrinkage on the upper and lower surfaces of the concrete, and the greater the danger of curling. Such curling is usually the result of a combination of the following conditions:

1. Very rich mortar floor finish (1:1 or 1:2) about 1-inch thick placed integrally with comparatively lean gravel concrete fill from 2 to 3-inches thick.

2. The use, in the 1-inch topping, of sands that contain excessive amounts of fines. By fines is meant particles that pass a 50 mesh sieve; rock dust, as found in some screenings, and silt or other powdery material finer than 100 mesh are particularly objectionable because of the enormous shrinkage they may cause.

3. The absence of coarser aggregate (⅛ to ½ inch) in the 1-inch top finish.

4. The use of excessive amounts of mixing water.

5. The use of joints spaced very closely together, say 4 or 5 feet apart. In some cases these joints are not intentional but are caused by leaving the screed strips in place too long.

6. Little if any moist curing, the finish being allowed to dry out immediately after the final troweling.

7. Low relative humidity and high temperatures of the air immediately over the floor; conditions that are favorable to unbalanced or differential drying and therefore favorable to curling.

When all of these conditions are present very marked curling of the floor finish may be expected at joints, walls and thresholds. Curling causes the floor to lift from ⅛ to ¼ inch at the joints or cracks so that considerable defacement and inconvenience results.

Excessive shrinkage in the upper layers of the floor topping due to quick drying accompanied by little if any shrinkage in the damp, lean concrete fill is the cause of warping or curling. In fact, if sufficient moisture is present below slight expansion may occur which would accentuate warping. The porous cinder or stone concrete fill may hold large quantities of moisture particularly when sealed off by a rich top coat.

Curling can always be prevented by observing the following precautions

1. By using the coarest grained, leanest possible mix. An excellent mix is composed of 1 bag portland cement, 1 cu. ft. torpedo sand and 2 cu. ft. of pea gravel or crushed stone (¼" to ½"). Rich mortars such as 1:1 or 1:2 should be discouraged.

2. Sands containing excessive amounts of fines or gravels and crushed rock containing much dust should never be used for any kind of floor finish. Sand should never contain more than 10% of material passing a 50 mesh sieve.

3. The more coarse aggregate present in the topping the less the shrinkage. Pea gravel or small sized crushed rock is an excellent aggregate for floor finish.

4. By reducing the mixing water to a minimum. Sloppy mixes shrink more than those having a lower water-cement ratio.

5. By using a concrete fill having volume changes that are as close as possible to those of the topping. A 1:1:2 and 1:2:4 combination for topping and fill is better than a 1:1 and a 1:3:6 combination.

6. By avoiding the use of an excessive number of joints in the finish and fill. It is good practice

(See Page 45)

NOTE: *This is the second of two articles written for ARCHITECT and ENGINEER by Mr. J. E. Jellick. The previous article, "Concrete Floors With Low Shrinkage," appeared in the February 1950 issue. Editor.*

Examples of Foundation Analysis

By **FREDERICK J. CONVERSE, Foundation Consultant***

The following is a brief discussion of methods used to solve the foundation problem for two types of buildings situated on a tidal flat. It is intended to illustrate how soil mechanics can be used to advantage in guiding the structural engineer in footing design.

The buildings were designed by the Parsons Aerojet Company for the U. S. Naval Air Missile Test Center at Point Mugu, California. Commander Dean Carburry was commanding officer at Point Mugu, Mr. Bruce Vernon was Project Manager for Parsons Aerojet, and Mr. John Mendenhall was in direct charge of the structural design.

The Site

Buildings are to be constructed near one side a broad, flat plain about 15 miles wide, near the ocean. The surface of the existing soil is a few feet above high tide level. The grade is to be raised to about elevation +11 above mean lower low water by means of dredged sand fill.

Problem 1 — Light Buildings

One- and two-story concrete buildings are to be constructed. The floor will be a reinforced concrete slab resting on the soil. The walls will be carried on continuous footings.

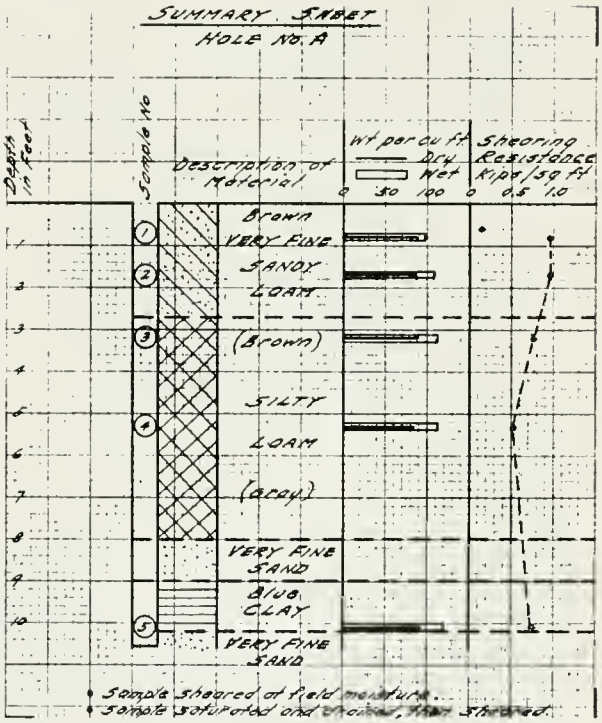
Required Soil Information

It is necessary to determine (1) the bearing capacity of the soil for spread footings and the depth at which the footings should be placed, (2) the required lengths for piles, (3) other possible types of footings.

Procedure for Attack Upon the Problem

A number of borings were made in the area, their depth varying from 12′ to 50′. Samples of the soil in an undisturbed state were taken at frequent intervals and tested in the laboratory to determine the structural strength and consolidation characteristics. In general the soils are composed of fine sand and silt, with a small amount of clay. They are very irregular in grading and deposition, and there is a wide variation in the shearing resistance at a given depth. The surface soil is weak and compressible, particularly down to a depth of about 18″. The proposed fill of 2′ of compacted select material will help consolidate this surface soil, but the soil will still be of low bearing capacity. There is no good firm bearing stratum over the entire area at a depth of less than 20 feet below mean lower low water. The water table is known to vary with the seasons over a height of several feet in the neighborhood of mean lower low water level.

Typical logs of the borings and results of the tests are shown on the figure, summary sheet, hole No. A, on this page.



Solution

The use of spread footings is desirable from a cost standpoint and the possibility of using them was therefore carefully studied.

The present surface soil is capable of sustaining only a few hundreds pounds per square foot, but since the entire area is to be filled to a depth of two feet or more it may be possible to carry lightly loaded footings on the compacted fill. At a depth of 1 foot below the surface a bearing capacity of 1200 lbs. per square foot can be safely used, providings the footings are not over 16 inches wide. This value is determined by the strength of the present surface soil below the compacted fill. The allowable width of footing may be increased by excavating some of the present soft surface soil and replacing it with compacted fill. By removing 18 inches of existing soil and thus increasing the

*NOTE—Professor of Soil Mechanics, California Institute of Technology, Pasadena, California.—Editor.

thickness of compacted fill below the footings to 2'-6", a footing 28 inches wide may be used with a unit load of 1200 lbs. per sq. ft. Select fill is available which, when properly compacted, is capable of sustaining a unit load of 2000 lbs. per sq. ft. from footings 1 foot below the surface. Footings loaded to this value may be as much as 16 inches wide before the soil below the fill is stressed to the allowable limit. Wider footings may be used providing the thickness of compacted fill beneath them is increased sufficiently to reduce the strain in the original soil to its allowable value. In general it was found that footings placed at any elevation, and having a depth of compacted fill beneath them equal to the width of the footing, could safely carry a unit load of 2 kips per square foot without overstressing the soil below the compacted fill. Figure 1 on this page illustrates a typical situation.

Settlement

Having determined that the soil is capable of withstanding the stresses imposed upon it by this procedure, the probable settlement must be determined.

Due to the 2 feet of added compacted soil necessary to bring the grade up to +11, a settlement of approximately ¼ of an inch will occur. The time required for this settlement to take place is quite uncertain because of the varying nature of the deposits. Considering the slowest settling case found in any of the borings, where the layers of silty loam are approximately 5 feet thick, with sand on each side, the calculated time for the primary consolidation to occur was 4.8 months. Very little settlement will take place after this time, and that will occur slowly. Some of the silty and clay layers of less thickness will consolidate within a month, and the more permeable layers will attain their compaction within a few days. It is probable that all of the consolidation due to the general fill will have taken place before the building construction is completed.

The amount of settlement due to the weight of the structure, and to the live loads imposed thereon, will depend on the depth of the footing beneath the surface, the width of the footing, and the unit load on the base of the footing. The deeper the footing is into the ground, the smaller the thickness of compressible soil below it, and the less the settlement is liable to be. The amount of settlement will increase with the width of the footing.

Considering a footing 4 feet wide at elevation +10, carrying a unit load of 2 kips per square foot, with a mass of compact select soil 4 feet thick and 10 feet wide beneath it, the calculated settlement for the most compressible soil found in any of the exploration holes is approximately 0.3 inch. Much of this settlement will occur rapidly and the rest of it slowly over a period of about 4 months. Due to the variation in character of the soil from point to point over the building site, there will probably be some differential settlement. However, it should not exceed 0.2 inches. These values are considered tolerable for this type of structure.

Piles

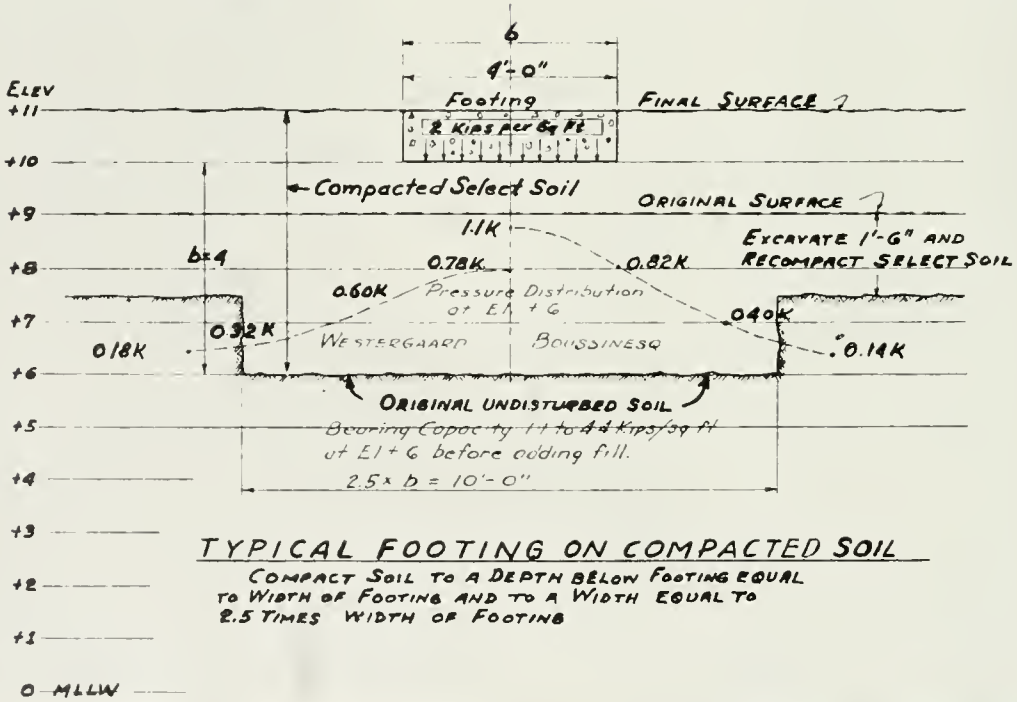
Piles may be of concrete, pressure treated timber, or a composite of concrete or pressure treated timber above the water table with untreated timber below the water table. Twenty ton piles should be driven to elevation —31, requiring a total pile length of about 40 feet.

Choice of Method

Cost analysis determined the type of foundation to be used.

Problem No. 2
Building with Heavy Column Loads

A large building with column loads varying from 200 kips to 700 kips is to be built in the same general area as that described in problem No. 1. The surface of the soil at the time of the foundation investigation was at elevation +7 above M.L.L.W. Within this building area the upper



TYPICAL FOOTING ON COMPACTED SOIL

COMPACT SOIL TO A DEPTH BELOW FOOTING EQUAL TO WIDTH OF FOOTING AND TO A WIDTH EQUAL TO 2.5 TIMES WIDTH OF FOOTING

stratum of soft soil varied from 7 feet to 9 feet thick, but below elevation —2.0 thick beds of clean fine to coarse sand extended down to about elevation —55.00. Firm sound with small amounts of silt in it was found from elevation —55.0 to elevation —88.0, and below this was a 2-foot bed of dense hard silt followed by clay.

General Design Conditions

The entire area is to be covered with 4 feet to 6 feet of dredged sand fill. It is considered probable that several additional feet of sand will be stored here for a period of several months.

Disregarding the temporary load, the uniform fill will help consolidate the weak upper strata by imposing a load of from 500 to 750 pounds per square foot upon it. The consolidation tests indicate that a settlement of from 1 inch to 2 inches is to be expected, and that most of the settlement will take place within two months. Any stored fill will cause additional settlement, but if the load is left on long enough, similar loads at a later date will cause negligible settlement.

Spread Footings

The bearing capacity of spread footings located in the sand fill was limited by the strength of the original surface soil rather than by the sand itself. A limiting value of 1500 pounds per square foot was recommended. While there was considerable variation over the building area, the minimum settlement based on the poorest soil was estimated to be approximately ½ inch for a footing not over 8 feet square.

If the footings could be carried down to the dense sand below elevation —2.0, very excellent bearing values were available. However, this elevation is from 5 feet to 7 feet below the water table and from 14 to 15 feet below grade. The cost of getting down to the good material and being sure of a good job appeared to be relatively great.

Piles

Any of the following types of piles may be used, the choice depending on the cost: (a) Precast concrete, (b) Concrete cast-in-place in driven steel shells, (c) Creosoted timber, (d) Composite untreated timber and concrete.

The procedure for the determination of the pile bearing capacity consisted of calculating the skin friction and end bearing and adding the two values. The skin friction on taper piles was obtained by multiplying the shearing values given on the summary sheets by the corresponding areas of the surface of the pile, and summing up these values to give the total frictional resistance of the soil. End bearing resistance was calculated by the Terzaghi method. A factor of safety of 2 was applied to determine design values.

(See Page 45)

Examples of FOUNDATION STRUCTURAL DESIGN and ECONOMICS

By JOHN D. MENDENHALL, Structural Engineer*

Presented at the Structural Engineers' Association convention

Two buildings have been selected from the $14,000,000 Pt. Mugu project for discussion. The first example is one where spread footings proved to be most economical, and the second structure demonstrates the suitability of piles. Finally, a tall tower with high uplift upon piles is discussed.

Several two-story barracks were built. These are long, narrow structures, 29'x220'. Reinforced concrete was used throughout, except that the roofs are trussed wooden rafters with diagonal sheathing.

Lateral forces on the roof are carried to the second floor by the cantilever action of the walls. The possibility of using the roof diaphragm to distribute forces to shear walls was examined, and rejected for several reasons. First, only one shear wall was permitted, and this was 119' from one end. Second, the roof is pitched and hipped, with an offset narrowing it at each end; the action of such cut-up and angled group of triangles and trapezoids is a highly debatable affair. Third, the deflection of a long wooden diaphragm restraining concrete walls is undesirable.

Lateral shear at the second floor is carried to end walls and one intermediate wall by diaphragm action of the second floor. The narrowness of the structures results in rather high overturning soil loads. Continuous spread foundations were employed in preference to pile footings for reasons of economy. For example, consider a continuous wall footing 4' wide and 1' thick. Total cost in place amounts to $5.23 per linear foot. If piles were used at five-foot centers, the cost would be $20.10 per linear foot of foundation, or 3.84 times as much.

The end foundations were somewhat interesting to design. Each is a combined footing supporting the end wall, which has high direct load and overturning, and a stair wall, which provides much less direct load and overturning. This causes rotational shear within the footing, and results in the center of force traveling both longitudinally

(See Page 40)

*NOTE—Buildings and facilities for the Naval Air Missile Test Center at Point Mugu, California, were designed by the Parsons-Aerojet Company. Commander Dean Carberry was officer-in-charge, Mr. Bruce Vernon was Project Manager for Parsons-Aerojet, Mr. Frederick J. Converse was foundation consultant, and the writer was in charge of structural design.

Clam Shell Dredger, one of several owned and operated by Edward Francis Haas

EARLY 20th Century Dredger building levee—San Joaquin Delta area

PIONEERS' CONFIDENCE and VISION—
in WESTERN OPPORTUNITIES

Building With The West

HAAS & ROTHSCHILD, San Francisco, In a Diversity of Construction Activities

By DAVID WARNER

In early 1850, a short but sturdy young man disembarked at the Isthmus of Panama dressed in the conventional style of the day—two guns strapped to his waist. They were not for general persuasion; they were travel insurance. By the time our pioneer reached San Francisco the guns were shelved to be used for special occasion only and the more serious business of gainful occupation dominated. Many new arrivals thought only of prospecting for gold, as this was the land of the new rich; others thought of capitalizing on the tremendous increase of business activity that follows any sudden upsurge in the trend of the population. This then was the reasoning of our new arrival—August Helbing—as he started on his business way in the field of finance. The correctness of his sound thinking was to culminate in the establishment—along with a group of similar minded men of business—of what was later to be known as the San Francisco Stock and Bond Exchange.

About a year earlier, Charles Haas had taken the same long combination sea and land voyage across the Isthmus and arrived in northern California. He too was intent on making his way in the

land of new hopes but again not in prospecting. After much thought he established a jewelry store in Stockton; merchandising gold, not digging it. This same store is currently celebrating its 100th year of operation—a tribute to foresight and planning—with a decendent of the founder operating the business under the original name.

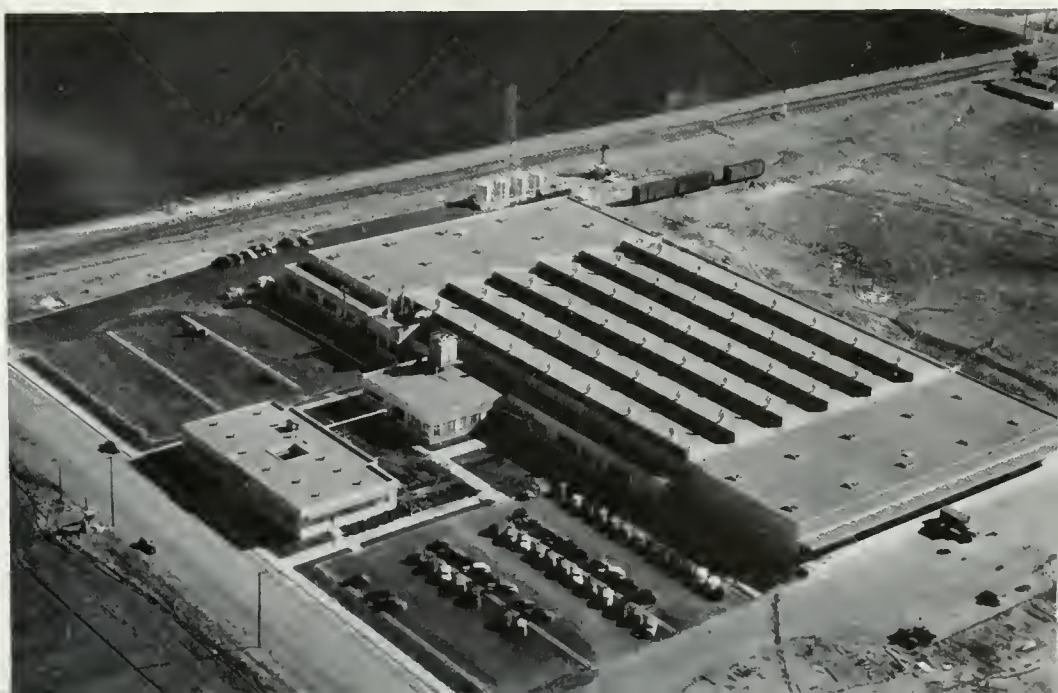
These hardy pioneers were the antecedents of Edward T. Haas, and Robert B. Rothschild, Jr., members of the present firm of Haas & Rothschild —general contractors. This partnership marked the first time the families joined in business but Haas' father Edward Francis Haas had preceded them in the construction business. He had formed a company and obtained the first contract to deepen Pearl Harbor nearly fifty years ago; operating many long-boom clam shell dredges (Page 18).

It may have been more than coincidence that the future partners enrolled in the University of California at the same time; perhaps it was more of destiny. They both graduated in the class of 1929 with the degree of Bachelor of Science in Civil Engineering. Going their separate ways to prepare for a well rounded background in the construction business, Rothschild immediately associated with an old reliable firm where he was to spend the next fifteen years and become chief engineer and estimator gaining experience in constructing all types and size buildings, bridges, dams and tunnels. Haas joined with several contractors in California and the East Coast and even spent a period of time in heavy construction in Europe. All of which served the purpose of gaining valuable knowledge in the field that would complement the long years of study of theory.

By 1936 Haas saw an excellent opportunity to go into business on his own; pulling away from his employers he formed his own company, Williams Brothers and Haas—now known as E. T. Haas Co. The managing partner is William Fairley and the company specializes in the installation and maintainence of underground utilities. Over a period of years this type of business has grown considerably requiring highly technical knowledge and skilled workmanship. Even though the company has maintained the same policy in their work, the ever increasing field of larger industrial and commercial construction was always a challenge to an aggressive contractor.

To meet this challenge with a capable organization in the general contracting business Ed Haas and Bob Rothschild formed the general partnership of Haas & Rothschild. Rothschild assumed the duties of general manager; Haas to handle contract negotiations. Their first official act was to hire L. S. Gosliner as chief estimator and H. M. Robbins as first assistant estimator. Both were University of California graduates in civil engineering and had many years experience as esti-

AERIAL VIEW of the new factory and office building for Western Waxed Paper Division of the Crown-Zellerbach Corporation.



WATER TREATMENT PLANT

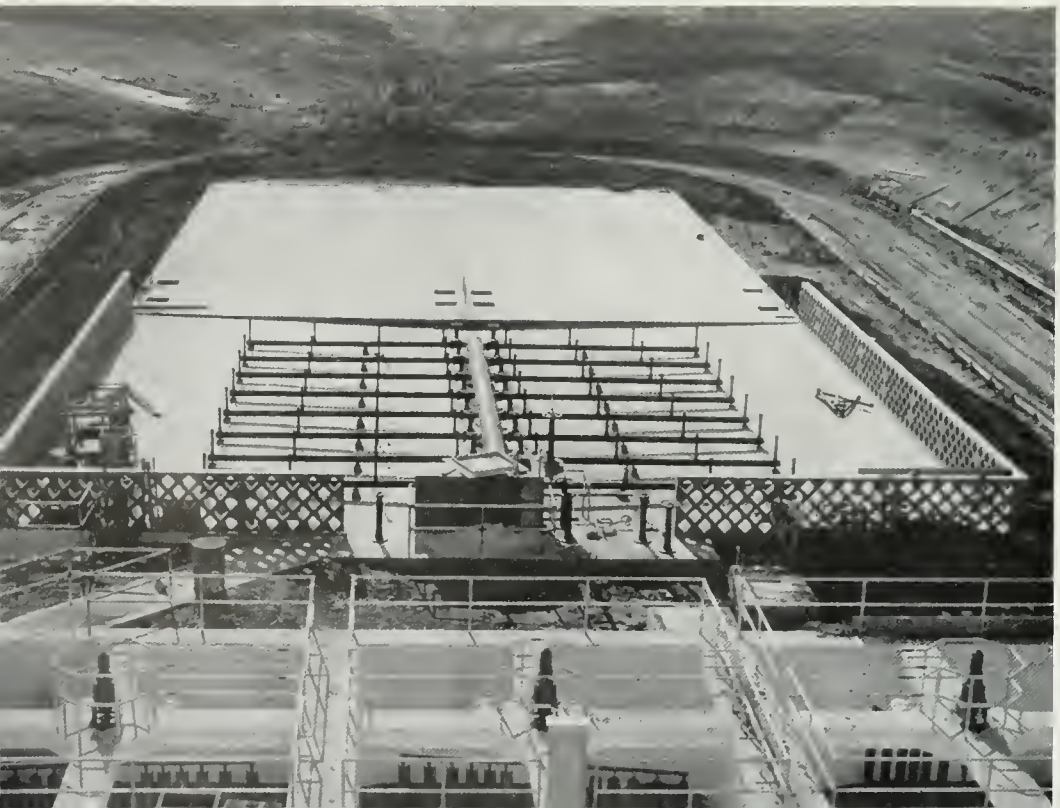
Adds to the harmonious surroundings of the rapidly expanding residential section of Antioch, California.

ANTIOCH WATER SUPPLY WORKS

John S. Bates, Engineer

Chas. Gilman Hyde, Consultont

Sedimentation Basins and Flocculation Tonks, showing intricate mechanical instollatiens of the Antioch Woter Treatment Plant.



mator, superintendent, and project manager with large construction firms. They were now all set for business and the success of this venture might be judged by giving consideration to the gross volume of construction, including affiliated companies and joint ventures, which exceeds 60 million dollars, and for the period of time involved is a record both partners can be proud to be identified with.

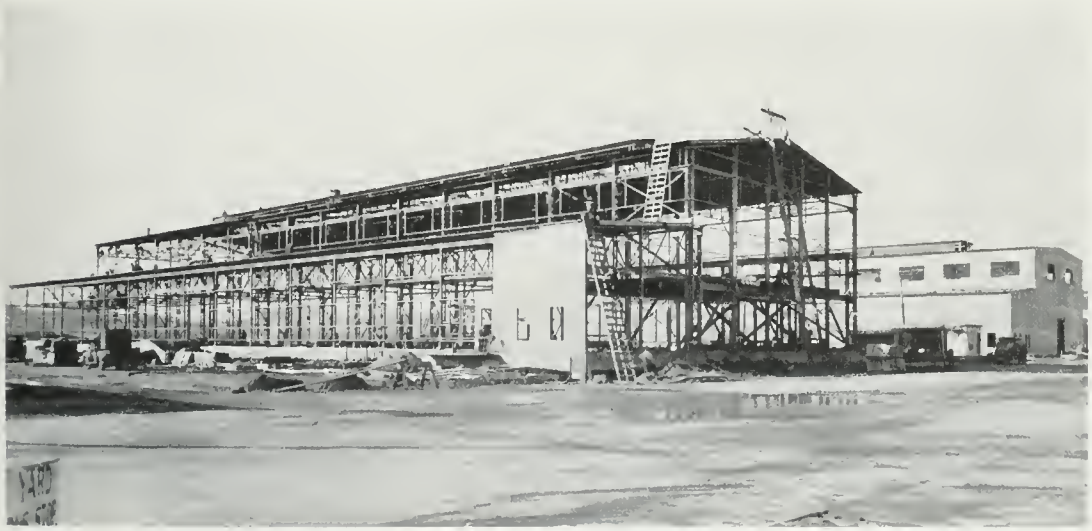
The projects included in this dollar total produced experience in many phases of the construction business. In various Army and Navy Bases over the west coast area they built hangars, warehouses, officers quarters, chapels, and fuel storage depots. Power lines—for the Rural Electrification Program—were built. A joint venture with Ford J. Twaits was entered into and over 3 million dollars worth of highly technical ship repair work was completed for the Army, Navy, and the WSA. Other joint ventures of note were the ones where Haas & Rothschild joined with Peter Kiewit Sons' Co.; and the North Point Joint Venture which consisted of M & K Corporation, Fred J. Early, Jr., Co. Inc., and Stolte, Inc.,

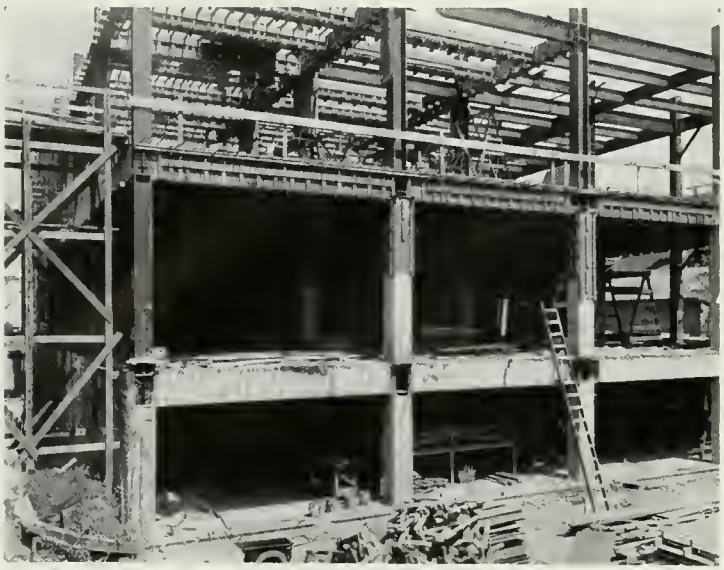
With Haas & Rothschild concentrating on industrial, commercial and heavy construction, a more complete story of their past and present activities might be made by examining a cross section of the type of work that they have been successfully identified with.

The air photo (Page 19) of the Western Waxed Paper Co. is an ideal example of an industrial plant that illustrates the ability in planning and construction that is necessary to a completed project. Routine construction problems, however, had one notable exception. The operation of this plant required the handling of hot wax, making it necessary to erect very complicated process piping and install the accessorial mechanical appurtenance. This installation (and others of similar type) was handled with Hastorf-Nettles Corporation, which provides an opportunity for Haas & Rothschild to accept, as general contractors, complicated refinery and chemical plant installations that are predesigned. Complete satisfaction to the clients has established a reputation of construction ability in a field that is limited in competition due to the high degree of skill required.

Other items are often guiding factors in a construction job: speed, or time, may be paramount. Such was the case when the U. S. Engineers office of San Francisco called one day with an urgent requirement for Tent Housing; involving utilities and utility buildings, mess halls, latrines, and brigs. This came at a time when men and materials were still at a premium but there was only one answer—do the impossible. In less than thirty days after receiving the go-ahead, Army personnel were being fed in the new mess halls. The actual money involved was only about ¼ million dollars but time was the important factor. This same time factor was also important in the construction requirements of private enterprise. The A. Levy & J. Zentner Company handle perishable goods and they needed a new office and warehouse building before the fall tomato crop arrived

STRUCTURAL STEEL FRAME WAREHOUSE with corrugated Metal siding—a popular type of design which lends itself to rapid construction at nominal costs.





HAYWARD

Showing all structurol steel in ploce.

Concrete floor construction is partially completed.

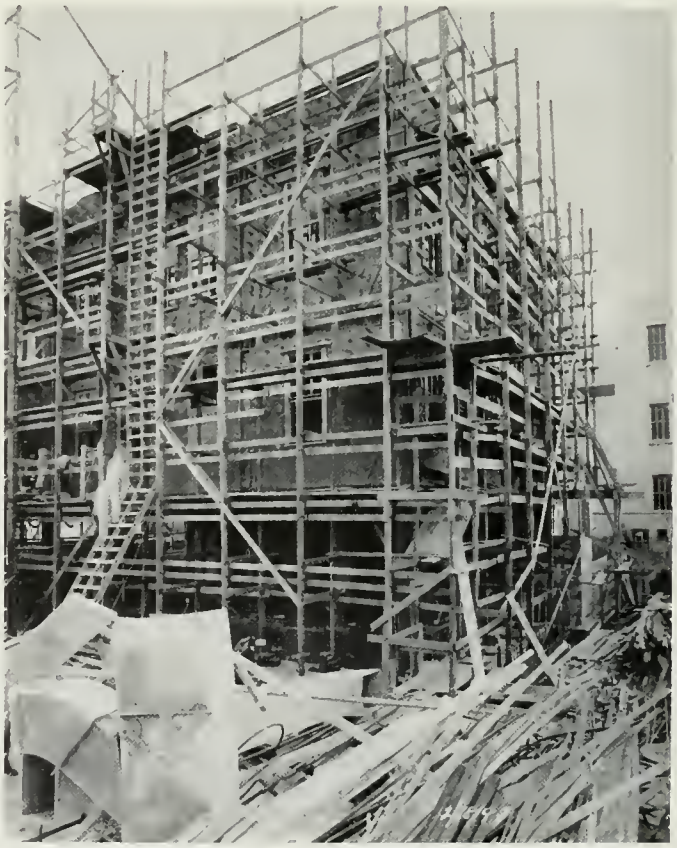
The Pocific Telephone & Telegraph Company's huge postwar expansion program includes projects in Stockton and Hayward.

Harry A. Thomsen & Aleck L. Wilson, Architects

STOCKTON

Unique feature of this project was the requirement for construction to meet the prior scheduled needs of highly technicol telephone equipment.

Installations were made on the third floor, necessitating the pouring of concrete for the roof and third floor first —construction then proceeded to the lower floors in inverse sequence.



on the market. The contract was signed and construction was under way by May 12th. Work was rushed ahead of planned schedule and storage capacity was available for the first arrival of tomatoes in early August—less than 90 days from date of ground breaking.

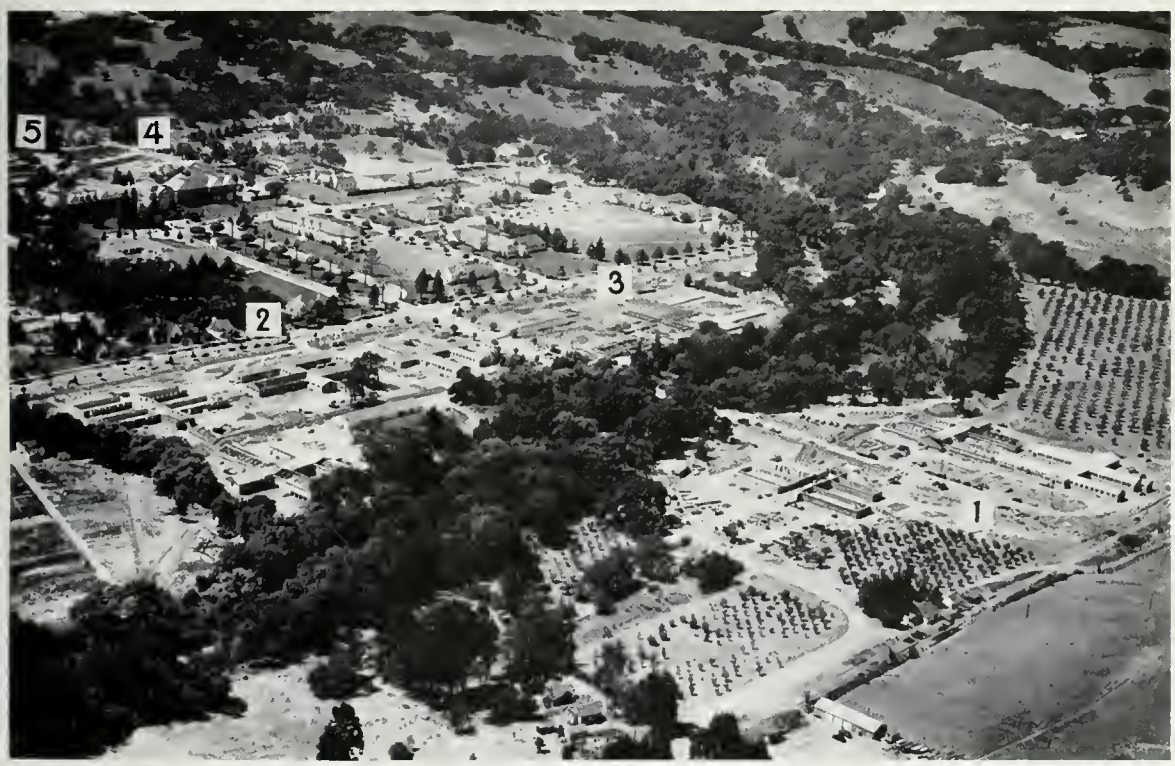
Work is not always undertaken with time as the guiding factor. Sometimes jobs will run on schedules of one or two years or more; many other problems will then enter into wise planning. Take the Sonoma Home at Eldridge, California; this is a 3 million dollar project (Photo Page 23) of many one story reinforced concrete buildings spread over acres of land. It consists of a hospital, seven ward buildings, boiler house, laundry, and a connecting system of underground utilities. This type of a construction job calls for entirely different planning than say an office building in a downtown area. There are complicated coordinating problems of erection schedules, material deliveries, manpower requirements, weather and many others to insure well constructed buildings completed in the alloted time. In the instance of the Sonoma State Home, work is planned for twenty months and is progressing on schedule so that the State will take occupancy on the agreed date.

Also of interest is that group of men who have worked together, handling complicated alterations and rebuilding jobs undertaken while the owner continues to operate as a going concern. Here time is not as important as minimum disturbance. The alteration work at the Stanford Hospital illustrates the care that must be taken to prevent undue duress to the patients and yet accomplish remodeling in a reasonable time. This project is underway currently with a minimum inconvenience to the patients. The Fiberboard company desired a whole section of roof rebuilt while the complex machinery directly below remained in operation, and this work was carried out with no mishap by the same group of skilled workmen. Stores, Banks and office buildings are all faced with similar problems when they rebuild or make extensive alterations. These same workmen have handled all types to the satisfaction of all concerned.

Since the close of the war the Pacific Telephone and Telegraph Co. implemented one of the largest expansion programs ever scheduled for the Pacific Coast. A large part of this included the build-

SONOMA STATE HOME **Anson Boyd, State Architect**

All buildings are one story reinforced concrete construction. The numbers indicate the general layout: 1) Male Ward Buildings, 2) Female Ward Buildings, 3) TB Hospital, 4) Laundry Building, and 5) Boiler House.



SOMMER & KAUFMANN

A neighborhood branch store in early American style.

Albert R. Williams, Architect

AMERICAN TRUST COMPANY

A major rebuilding project; built over and around an existing branch without loss of business operating time to the bank.

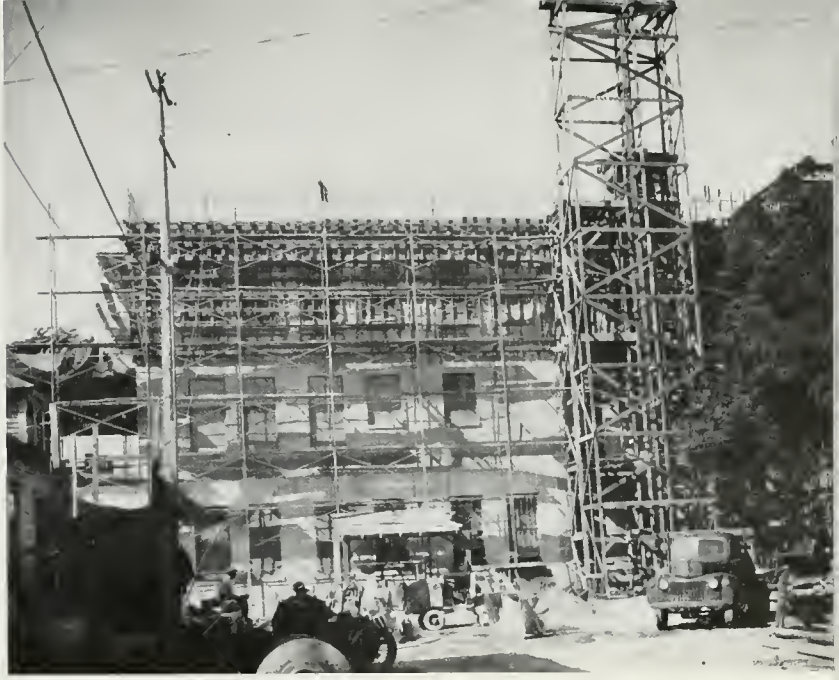
Chas. Strothoff, Architect

PALACE HARDWARE

Lakeside branch; center of garden village; a functional design using Ashlar laid blended rubble stone with Redwood and flower boxes.

Irvin W. Goldstine, Architect

Bruce E. Heiser, Industriol Designer



TELEPHONE BUILDING
Palo Alto

Showing scaffolding, partially complete concrete, and necessary form work to pour upper floor.

Harry A. Thomsen &
Aleck L. Wilson, Architects

TELEPHONE BUILDING
Redwood City

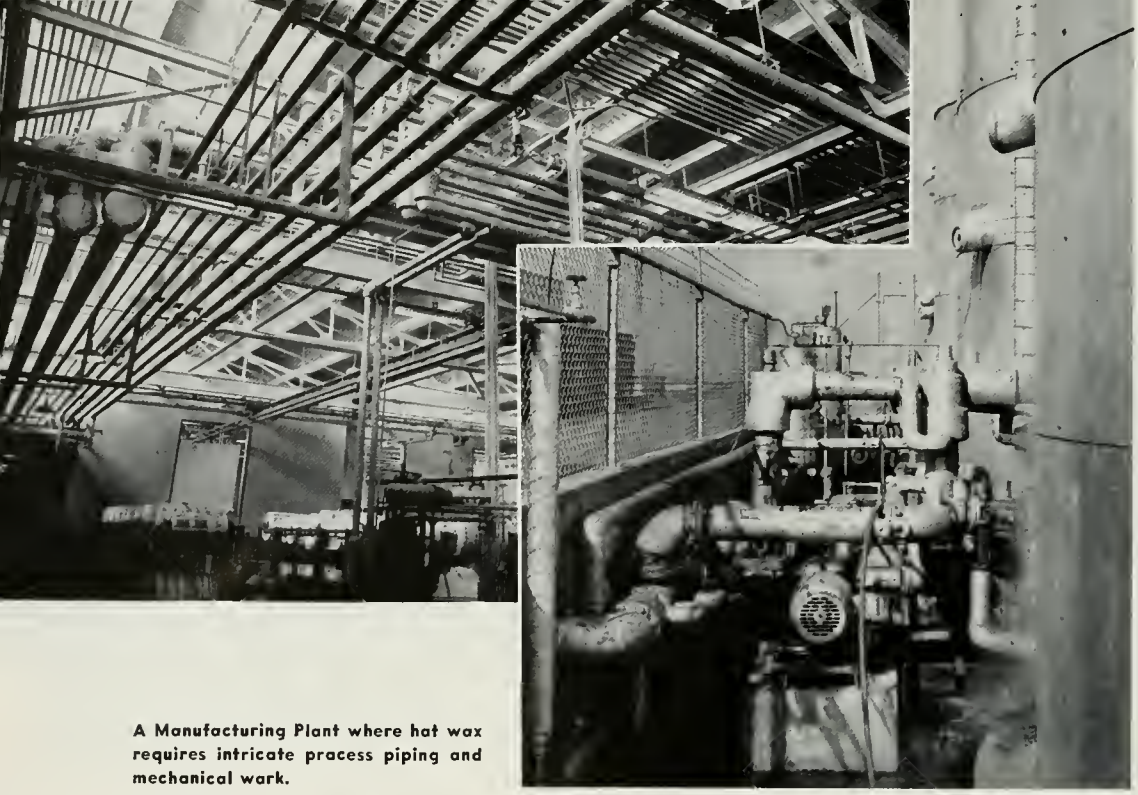
Showing sturdy brick wall construction prior to applying water proof plaster exterior finish.

Horry A. Thomsen &
Aleck L. Wilson, Architects

HAMILTON SQUARE
Baptist Church

Reverential simplicity in a modern church design.

Donald Powers Smith,
Architect



A Manufacturing Plant where hat wax requires intricate process piping and mechanical wark.

THE interiar abave indicates the involved design and camplicated canstructian, while the exteriar shaws the pumps and starage tanks which feed the machinery af the newest wax paper plant an the Pacific Coast.

ing of new office and equipment buildings in various towns and cities of northern California. It was a natural conclusion to have Haas & Rothschild take part in this expansion program, and in less than four years they have built nearly 2½ million dollars worth of new buildings or additions to present locations including Palo Alto, Redwood City, Stockton, Hayward, Lakeport, and Pittsburg. All remodeling of existing structures carried the requirement that work was to be done on a basis that existing areas were to be water, dust, and sound proof at all times. Usually these requirements were similar but in the construction of the Stockton building the Telephone Co. was faced with an equipment installation schedule by Western Electric that had to be set up on the top floor early in construction. This necessitated a complete reversal on scheduling the concrete; the roof and top floor were poured first and the other floors in inverse order. In this manner the building was completed on schedule but the important factor of equipment installation was handled on time by this unorthodox procedure.

The varying demands on the contractor may take the form of heavy construction. When this involves a sewage disposal plant complicated mechanical work is a part of these projects. In this field Haas & Rothschild has become an important factor, having constructed two of the larger sewage plants at San Mateo, and San Rafael. (Page 28). Different in purpose but with similar construction problems was the large water treatment plant built for the city of Antioch. The photograph (Page 20) shows the complex piping and mechanical work inherent in projects of this type. The largest in the area at the present time is the North Point Sewage Disposal Plant for the city of San Francisco (Page 27). This is an 8-million dollar project of the North Point Joint Venture referred to earlier sponsored by M & K Corporation with Haas & Rothschild participating.

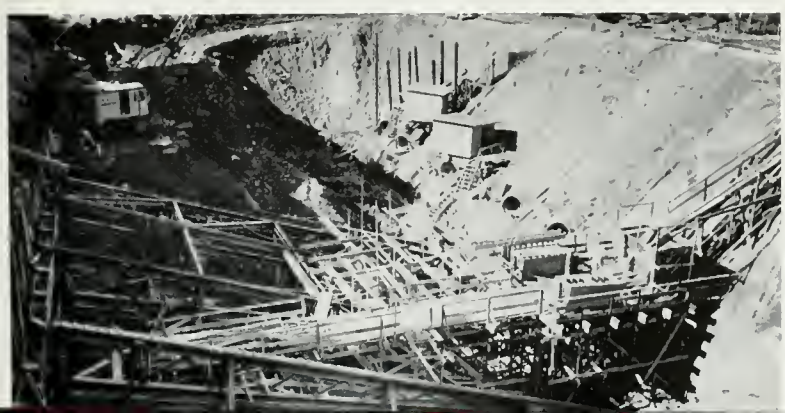
To list all companies that Haas & Rothschild number as their clients and friends would require more than just this brief summary. In addition, however, to the ones that have been discussed others that would make an interesting investment portfolio are The American Trust Co. and the Bank of America; Shell and Tidewater Associated Oil companies; and the Linde Air Products Co., Pacific Gas & Electric, Vulcan Foundry, California-Hawaiian Sugar Refining Co., and Rossotti West Coast Lithographing Co.

No knowledge of any firm is complete without some acquaintance with top management in their

CONTRA COSTA COUNTY JUVENILE HALL

The exterior is marked by rugged simplicity of design in this functionol building; while the interior—to the left—indicotes the unusuol form work required to complete the interior construction.

E. Geoffery Bangs, Architect

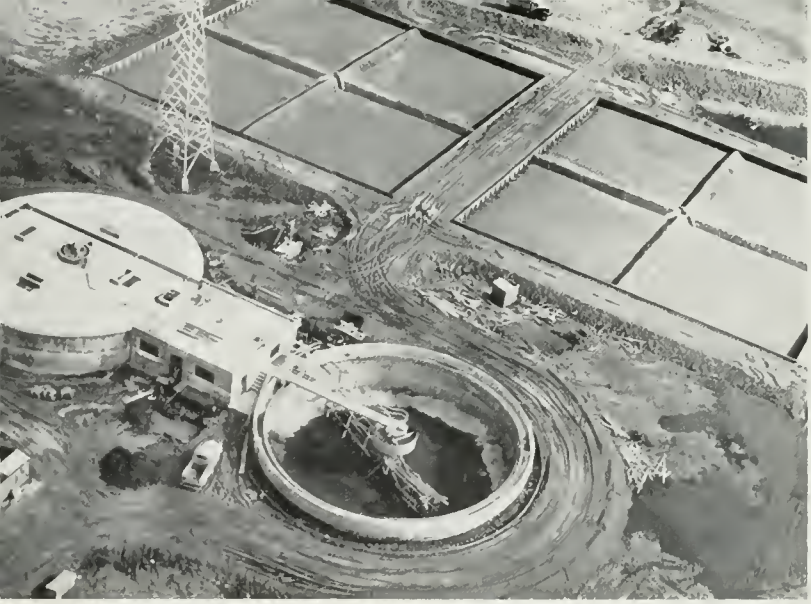


NORTH POINT SEWAGE TREATMENT PLANT

City and County of Son Froncisco

An $8,300,000 joint venture with M & K Corporation; Stolte, Inc.; Fred J. Eorly, Jr., Company, Inc.; and Hoas & Rothschild. Sponsored by M & K Corporotion.

Top view shows area covered; view at left shows steel sheet piles and heavy structurol steel braces to hold adjoining property.



SAN RAFAEL SEWAGE TREATMENT PLANT

Air photo of Sanitation District project showing clarifier at right; Central House, center; Sludge Digester, left; and Sludge Drying Beds in rear.

Harry Jenks, Engineer

hours away from their office. Both men are married and have families. Haas has a daughter age 11 and a son age 4; Rothschild has two sons ages 6 and 10. In spite of long demanding hours in the construction business, they maintain social activities and club contacts. The two partners are members of the American Society of Civil Engineers and are active in its functions. Rothschild is a member of Concordia-Argonaut and Haas following his fathers footsteps is a member of the Pacific-Union and the Burlingame Clubs. The balance of their leisure time if any is taken up with their hobbies; Haas plays golf, Rothschild's outdoor exercise is gardening and fishing. Occasionally he writes articles on engineering subjects that have been published nationally and in foreign engineering trade journals.

Preparations are underway to start the construction of a new building for the advertising firm of Brisacher, Wheeler and Staff. For years they were located in downtown San Francisco; they are now locating in the Van Ness and Bush area of the same city. Perhaps their moving presages a broad trend of locating away from the congested parts of the city; if so Haas & Rothschild will be ready to do all in their power to aid in the rapid building program that would make this a reality. At the opposite end of the Pacific Coast, which illustrates the continual change in conditions and types of work, preparations are under way for an iminent start on the canal and structures that have been awarded the firm for the newest section of the West Canal of the Columbia Basin Project. This is a joint venture with Marshall, Haas & Royce and is all in the days work of planning, scheduling, building and completing of any large construction job; never knowing where the next call for bids may take you but always building and building with the west.

One of three major buildings constructed by Haas & Rothschild, General Contractors, to give San Francisco a modern concentrated clothing center with large parking areas.

J. Francis Ward & John S. Bolles, Architects

KRAFTILE'S SILVER ANNI-VERSARY

Chas. W. Kraft, center, presides at "Silver Dollar" anniversary luncheon. J. B. Crawford, left, and Joe Mesquite, right, are honored members of Kraftile's 25 year Club. (No. 1.)

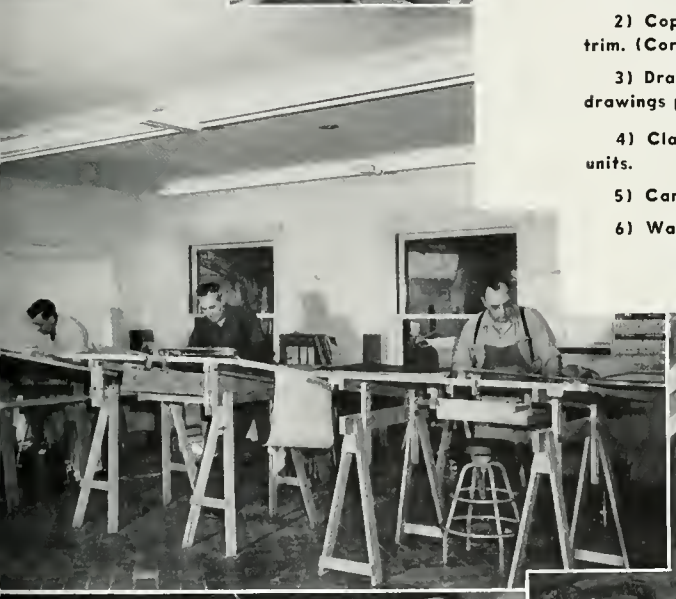
2) Coping, mitering required to transform die run shapes into trim. (Corners, etc.)

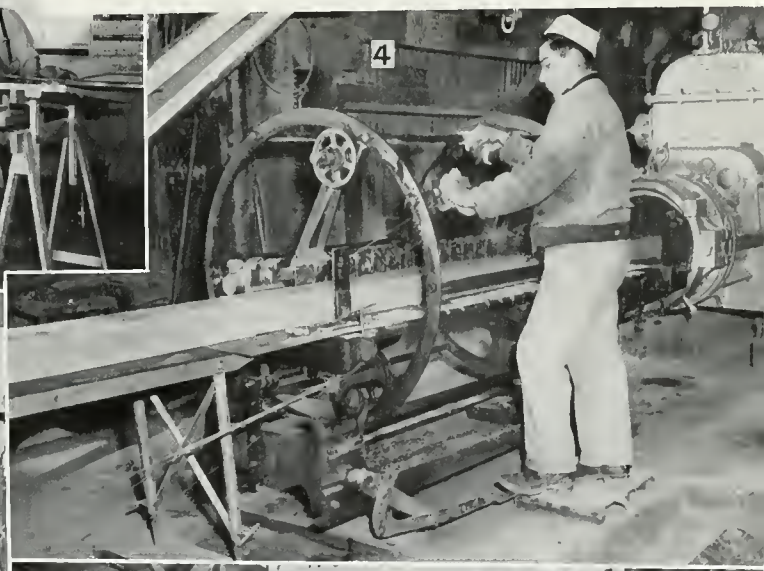
3) Drafting department where take-affs are made and erection drawings prepared.

4) Clay column emerging from augur machine, being cut into units.

5) Car entering tunnel kiln.

6) Warehouse operation.





A. I. A. ACTIVITIES

American Institute of Architects

Arizona Chapter:
Edward L. Varney, President; Ralph B. Haver, Secretary, 35 W. Oregon Street, Phoenix, Arizona.

Central Valley of California:
Frank V. Mayo, President; John W. Bomberger, Vice-president; Ivan C. Satterlee, Treasurer; William Koblik, Secretary, 2203 13th St., Sacramento, California.

Central Coast Counties Chapter:
Birge M. Clark, President; Lisle Fred Richards, Secretary-Treasurer; Thomas E. Elston, Jr., Chester Root and Henry Morgan Stedman, Directors. Office, 411 Lafayette Street, San Jose.

Colorado Chapter:
Henry J. Von Wyl, President; Charles H. Overholt, Secretary, 2509 W. 36th Avenue, Denver, Colorado.

East Bay Chapter:
James H. Anderson, President; Loy Chamberlain, Vice-President; William Corlett, Secretary; Chester Treichel, Treasurer. Office c/o Sec., Bank of America Bldg., Oakland.

Montana Chapter:
Orr Pickering, President; H. C. Cheever, Secretary, Montana State College, Bozeman, Montana.

Nevada State Board of Architects:
L. A. Ferris, President, Reno; Walter Zick, Secretary, Las Vegas; Directors, Aloysius MacDonald, Las Vegas; Russell Mills and Edward Oarsons, Reno. Office, P. O. Box 2107, Las Vegas, Nevada.

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Burton Romberger, President; Georgius Y. Cannon, Vice-President; Donald E. Neptune, Treasurer; William H. Taylor, Secretary. Directors: Boyd E. Georgi, Roland E. Coate, Edwin Westberg and Robert H. Ainsworth. Office 1041 E. Green St., Pasadena.

San Diego Chapter:
George C. Hatch, President; Jack R. Lewis, Vice-President; Louis A. Dean, Secretary; Donald Campbell, Treasurer; Directors, C. J. Paderewski, Walter C. See, Louis H. Bodmer, and Wm. Templeton Johnson. Offices Suite 206 Fifth Avenue Building.

San Joaquin Chapter: (California)
Fred L. Swartz, President, Fresno; Lloyd J. Fletcher, Vice President, Visalia; Walter Wagner, Secretary, Fresno; Robert W. Stevens, Treasurer, Fresno. Directors: Alastair Simpson, William D. Coats, William F. Baxter. Maurice J. Metz, Delegate California Council of Architects. Office, Sec. Fulton-Fresno Bldg.

Santa Barbara Chapter (California):
Henry W. Howell, President; Wallace Wm. Arendt, Secretary, 236 La Arcada Bldg., Santa Barbara, California.

CALIFORNIA COUNCIL OF ARCHITECTS
Andrew T. Hass, President; Adrian Wilson, Vice-President; Malcolm Reynolds, Secretary-Treasurer: Office 369 Pine Street, San Francisco.

Southern California Chapter:
John Rex, President; John J. Landon, Vice-president; Burnett C. Turner, Secretary; Jack C. Lipman, Treasurer. Chapter Headquarters, 3757 Wilshire Blvd., Los Angeles 5.

Spokane Chapter:
Richard H. Eddy, President; Harry C. Weller, Vice-President 1; Kenneth D. Storment, Vice-President 2; Victor L. Wulff, Secretary, and Carl Johnson, Treasurer. Office 1023 W. Riverside Ave., Spokane, Washington.

Utah Chapter:
Howell Q. Cannon, President; William J. Monroe, Jr., Secretary, 3707 South 32nd West Street, Salt Lake City 7, Utah.

Washington State Chapter:
Waldo B. Christenson, President; Perry B. Johanson, 1st Vice-President; Charles T. Pearson, 2nd Vice-President; John M. Morse, Treasurer; and Bliss Moore, Jr., Secretary. Offices 714 American Building, Seattle 4, Washington.

Tacoma Society:
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FRANK LLOYD WRIGHT

Members of the Home Builders Institute of Los Angeles heard Frank Lloyd Wright discuss several phases of architectural design at the annual meeting of the organization recently.

Col. Wm. H. Evans, Long Beach, was installed as president of the group for 1950.

COURSE IN ARCHITECTURAL ACOUSTICS IS OFFERED

The University of California Extension at Los Angeles is offering a course for architects and engineers in "Architectural Acoustics" under the direction of Donald P. Loye, B.S.; E.E., Acoustical Consulting Engineer, on the Los Angeles campus.

Covering an 18 week program the course covers the fundamentals of acoustics as applied to the design of auditoriums, studios, schools and homes. It includes the properties of sound, sound absorption (materials and construction), noise control, sound amplification systems, and examples of buildings.

SOUTHERN CALIFORNIA CHAPTER

Through cooperation of the United Fruit Company a motion picture film entitled "The Maya Through The Ages", concerning central America and containing some most interesting footage on the architecture of this region, was exhibited to

members at the February meeting in Los Angeles. The film was produced by Kenneth Macgowan, and the cameraman who filmed the picture, Giles Heeley, was on hand to add his personal comment on many of the scenes.

A.I.A PRESIDENT WALKER AWARDED MEDAL OF HONOR

Ralph T. Walker, president of the American Institute of Architects was awarded the Medal of Honor by the New York Chapter of the Institute at its 81st Anniversary Dinner on February 21st.

The medal, presented annually, is the chapter's highest award and is given for distinguished architectural work and high professional standing.

NORTHERN CALIFORNIA CHAPTER

"The Social Status of the Architect in our Society" was the subject of a talk by Eric Mendelsohn at the regular March meeting.

Wendell R. Spackman, Chairman of the Committee on Relations with the Construction Industry gave a comprehensive report on the work of his Committee and outlined plans for continuance of their efforts for the ensuing year.

S. P. Duckel, newly appointed Director of the Department of Public Works for the City and County of San Francisco was the guest of honor, it being his first official appearance before the Chapter.

Plans for Chapter activities during the year were outlined and indications point to a busy program of all committees.

SAN DIEGO CHAPTER A.I.A.

The San Diego Chapter of the American Institute of Architects installed officers for 1950 at their regular dinner meeting on February 15, in the Colonial Room of the U. S. Grant Hotel.

Albert C. Martin, Jr., past president of the Southern California Chapter, and Vice President of the California Council of Architects, officiated at the installation of the following officers, George C. Hatch, President, Jack R. Lewis, Vice President, Louis A. Dean, Secretary, and Donald Campbell, Treasurer. These officers were elected at the January meeting.

Martin's architectural firm is one of the oldest and largest on the Pacific Coast numbering The May Company among its many clients.

Hatch in his comments reviewed the achievements of the chapter during the last two years under the guidance of C. J. Paderewski, past president. Highlights of these remarks were that the membership has increased and now includes more than 90% of the registered architects in the county and several from Orange and Imperial Counties; that the cooperative relationship between the architects and the building industry has been re-

(See Page 35)

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Structural Engineers Association of Central California
William H. Petersen, President; Walter S. Wassum, Vice President; O. T. Illerich, Sec. Treas.; Ernest D. Francis, M. A. Ewing, and Arthur A. Sauer, directors. Office O. T. Illerich, c/o Div. of Arch., Sacramento.

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San Francisco Section
A. W. Earl, President; G. B. Woodruff, Vice President; C. T. Wiskocil, Vice President; R. D. Dewell, Secretary-Treasurer. Secretary's Office, 604 Mission Street, San Francisco.

Structural Engineers Association of Southern California
E. C. Hillman, Jr., President; Donald F. Shugart, Vice President; Robert J. Short, Secretary-Treasurer. Directors: Charles M. Herd, John Minasian, Harry Bolin, John Case and Lewis Osborne. Office, 202 Architects Bldg., Los Angeles 13.

Puget Sound Engineering Council (Washington)
R. E. Kister, A. I. E. E., Chairman; E. R. McMillan, A. S. C. E., Vice Chairman; L. B. Cooper, A. S. M. E., Secretary; A. E. Nickerson, I. E. S., Treasurer. Offices, L. B. Cooper, c/o University of Washington, Seattle 5, Washington.

STRUCTURAL ENGINEERS ASSOCIATION OF SOUTHERN CALIFORNIA

At the February 1st meeting of the Structural Engineers Association of Southern California, "Some Concepts of an Architectural Education" were presented by Clayton Baldwin, Associate Professor of Architecture at the University of Southern California and member of the A.I.A.

Rather than beginning with a discussion of educational systems currently employed in various institutions, Baldwin who taught architecture some thirty years at the University of Southern California, gave the audience an insight into what was and is one of the basic courses in architectural study "History".

The speaker displayed, through the medium of kodachrome slides, examples of early architectural accomplishments — from the Pompeii Ruins to Contemporary Architecture in California. Due to the limited time the "Travelogue" was far from complete, but it showed somewhat the trend in architectural thinking.

Starting with some slides of the Ruins of Pompeii, it was shown that the residences of those times included inner courts and patios much the same as Modern Architecture here in Southern California. Baldwin continued with some very interesting and colorful slides of Greek and Roman Architecture which depicted the religion and life of those times. Examples of English, French and Italian Gothic and Renaissance Architecture carried the trend of architecture through the centuries, showing the influence of the earlier structures on those succeeding them. With the growth of modern architecture came the era of functionalism and simplicity of lines and forms.

In a great many architectural schools courses in copying the Greek Orders, in addition to the cultural aspects of architectural history, are required studies. Baldwin suggested that more practical courses be given covering methods of present day construction. To supplement scholastic endeavors, the speaker also recommended that at least one year of independent work be done by the student in an architectural office where the business phase of architecture and contacts with clients and experienced men in the field might be acquired.

Towards architectural design Baldwins feelings were for truth in form and the final structure indicating clearly the nature of construction. Of the examples shown of several Modern California structures in the rough framing stage, Baldwin commented that these unfinished buildings are

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better examples of true Modern Architecture that they would be with plaster or other materials hiding their forms.

The speaker favored honesty and simplicity of form and complete freedom of thought and presentation. The students original ideas should definitely be fostered and encouraged, he continued, but they should also be guided to practical ends.

The March meeting will be devoted to a discussion of stress with Ralph N. Conner, Western Representative for Testing Equipment, Baldwin Locomotive Company, speaking on "Some Applications of the Strain Gauge for Improving Design Through Stress Analysis." A film entitled "Split Second Fastening" will also be shown by L. B. Kellerman, Field Engineer for the Victor Equipment Company.

STRUCTURAL ENGINEERS ASSOCIATION OF NORTHERN CALIFORNIA

The regular March meeting, held in the Engineers Club, San Francisco, was devoted to a consideration of "Lateral Forces" with an open discussion by members of the Joint Committee on Lateral Forces on recommendations of the Lateral Force Code Provisions.

The discussions represented views of numerous members developed since the Joint Committee presented its recommendations to the group in November.

ENGINEERS' JOINT COUNCIL NAMES WATER POLICY PANEL CHAIRMAN

Wesley W. Horner, consulting engineer with headquarters in St. Louis, Missouri, has been named Chairman of the new Water Policy Panel of the Engineers' Joint Council, according to a recent announcement from the American Society of Civil Engineers.

The Engineer's Joint Council is a coordinating body of the engineering profession, composed of the five principal national engineering societies, representing more than 100,000 engineers.

WELDING ENGINEERS CONFERENCE

Some 300 engineers, designers and production supervisors will attend the 11th annual meeting of the Ohio State Welding Engineering Conference at Ohio University in Columbus on April 14 and 15.

Subjects scheduled for discussion are "Design for Resistance Welding", "The Design of High-Quality, Low-Cost Parts for Industry", and "Analysis of an 80 Foot H-Section Welded Truss".

RESIDENTIAL DEVELOPMENT

The Sterling Building Company of Daly City recently announced the construction of thirty-five new residences in Sterling Terrace, South San Francisco, at an estimated cost of $7,000 each.

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PRODUCER'S COUNCIL PAGE

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Edited by Don W. Lyon, LIBBEY-OWENS-FORD GLASS CO.

FEBRUARY BUSINESS MEETING

Following the very successful induction meeting of January, Prexy George Conley and his slate of officers and committeemen waisted no time in swinging into action. The February meeting was devoted to a discussion of plans lor the balance of the year and the announcement of committees. Standing committees are to be chairmaned as follows:

MEMBERSHIP: Carl Frank, Detroit Steel Products Co.

FELLOWSHIP: Paul Wagner, Armstrong Cork Co.

TECHNICAL & INFORMATION: Tait Smith, Ceco Steel Products Corp.

PROGRAM: "Veep" MacJennett, Mueller Brass Co.

PUBLIC RELATIONS: Don Lyon, Libbey-Owens-Ford Glass Co.

TABLE TOP: Last years revival of the Table Top Exhibit having been successful, the function is now planned as an annual event for the Chapter. Selected to head the 1950 Table Top Committee, Jim Ferguson, Johns-Manville Sales Corp. will have as his able assistanes, Ed Eddinger, Owens-Corning Fiberglass Corp.; Lewis Saylor, Vermont Marble Co.; John Cowley, Sisalkraft Company; Bill Hauserman, E. F. Hauserman Co.; and Al West, Aluminum Co. of America. Although the location and dates are as yet a well kept secret, member companies are already laying preliminary plans for the show.

SPORTS MEETING: Although it's many months off, preparations are already under way lor the next version of the sport show. Frank Taforo, Western Asbestos is the capable chairman of this committee and will count on Howie Noleen of E. F. Hauserman Co.; Norman Brown, Bell & Gossett Co.; Harry Goss, Zurn Mfg. Co.; and Clint Hallsted, American Lumber & Treating Co. to back him up.

ARCHITECTS SPECIFICATIONS—A CHALLENGE

Those of us engaged in the various aspects of the construction game are all too familiar with the troubles often encountered because of misunderstanding or misinterpretation of architect specifications. Like the weather, we all talk about it but nobody does anything about it. With the backing of the A.I.A. we propose to analyze the problem. Already the Architects Committee has met for preliminary study with the Producers' Committee, Tait Smith, Chairman; Ray Brown, Ken Pinney and Don Lyon. To be of lasting and mutual benefit this committee feels that its work must not be confined to the high level of theory but must tackle many specific instances where lack of clarity has caused difficulty. We need grist for the mill. The committee will, therefore, welcome reports from architects, general and sub-contractors and Council members which will assist in pointing the way toward a mutually satisfactory program.

COUNCIL BRIEFS: Herb Galitz, Westinghouse Electric who has served the Chapter well and faithfully for many years, twice as Secretary, has been promoted and moved to, you should pardon the expression, Los Angeles. He is taking the position formally occupied by Gano Baker, past president of this Chapter who has also been promoted and moved to the New York office. Good Luck, Herb and Gano. Wayne Rawlings, Harbor Plywood who has been missing from recent meetings because of his need for commuting between here and Southern California tells us he will once again spend most of his time here. Glad to have you back Wayne. Dan Mikesell, Celotex Corp. has been transferred to Los Angeles also and will be succeeded here by Bill Armstrong. We hope Bill will prove to be as active as many of his predecessors from Celotex.

USE QUALITY PRODUCTS — MANUFACTURERS OF QUALITY BUILDING PRODUCTS — PRODUCERS' COUNCIL — CONSULT AN ARCHITECT

A. I. A. Activities

(From Page 31)

emphasized, and that the architects have become even more interested in the community than ever before.

The coming year will be a very active one for the San Diego Chapter of the American Institute of Architects. The chapter by-laws must be rewritten to bring them up to date. There will be an Honor Awards Competition in which the best work in several types of buildings in San Diego will be selected by a jury of nationally known architects. A series of programs of great interest will be presented at the regular meetings.

After the business meeting a movie and talk by a member of the San Diego Water Authority was presented.

It was announced that Russell Ray of Lemon Grove has been honored by election to Member Emeritus of the San Francisco Chapter of the American Institute of Architects.

SAN DIEGO ARCHITECT NAMED TO STATE ARCHITECTURAL BOARD

Governor Earl Warren has named C. J. Paderewski, A.I.A., well known San Diego architect, to the State Board of Architectural Examiners to fill a vacancy created by the recent retirement of Louis J. Gill, F.A.I.A., following twenty years of continuous board membership.

Gill was first appointed to the State Board of Architectural Examiners in 1929. Since that time he has served as chairman during the years 1932 to 1934, and again from 1947 to 1949. Gill is a Fellow of the American Institute of Architects and represented that group on the National Board for Accrediting Architectural Schools. Gill was also President of the N. C. A. R. B. from 1942 to 1945. He has been extremely active in San Diego civic affairs and served as chairman for the group of architects for the San Diego Civic Center.

Paderewski has just concluded two terms as president of the San Diego Chapter of the A.I.A. He has represented his chapter at the California Council of Architects and has been extremely active in committee work in the San Diego Chamber of Commerce. Paderewski's activities outside the field of architecture are also very numerous. Among organizations he values his membership in the Lions Club, and Toastmasters, and is a 4th Degree Member of the Knights of Columbus.

Paderewski graduated from the University of California, School of Architecture, in 1932, and has been active as an instructor for the University Extension Division in San Diego. It is interesting to know that Mr. Paderewski is a second cousin of the late Ignace Jan Paderewski, world renouned pianist and statesman.

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HEADLINE NEWS & VIEWS

By E. H. W.

AMERICA'S leading carpet mills and stores will literally "roll out the plush carpet" for the nation's home-makers on April 17-27, when new carpets and rugs for 1950 go on display for the first time.

* * *

INDUSTRIAL land sales during the last half of 1949 in the San Francisco-Oakland area were more for residential development than industrial, reports Robert P. Danielson, Industrial Planning Consultant.

* * *

"INDECISION of government policymakers has contributed to increasing difficulties in management-employee relations in the construction industry"—H. E. Foreman, Mgr.-Dr., The Associated General Contractors of America, Inc.

* * *

THE valuation of building permits issued in the 14 southern California counties during January reached $81,006,506.00, according to the Building Contractors Association of California. The largest January on record.

* * *

THERE were seventy-one building permits issued in Los Angeles in January for school structures.

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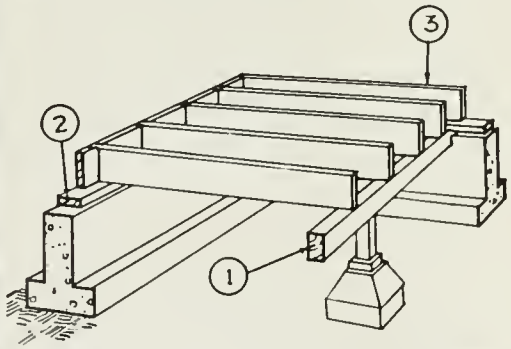

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IN THE NEWS

SAN FRANCISCO CABLE CAR

The historic Powell Street cable cars in San Francisco will soon have a new turntable for use at the Powell and Market street terminal, according to a recent announcement of the Public Utilities Commission of the City of San Francisco.

The Payne Construction Company of San Francisco will make the installation, which will cost approximately $14,767.

BIDS REJECTED FOR HIGH SCHOOL ADD

Trustees of the Fremont Union High School District, Sunnyvale, California, recently rejected a bid of $82,490 for the construction of an addition to the high school building.

The proposed construction was a music building and alterations to the boiler house and yard.

COUNTY HOSPITAL BIDS ARE REJECTED

A proposal to build a 416-bed addition to the Sacramento County Hospital in Sacramento at an estimated cost of $1,473,781 has been rejected.

Construction was to consist of two new six-story wings and a four-story addition to the present building.

DRIVE IN BANK AT SANTA ROSA

The Exchange Bank at Santa Rosa (California) is building a new bank building on the corner of Dutton and Sebastopol Avenue which will serve as a "drive-in" bank. Construction will be of frame and stucco with some steel and bullet proof glass installations.

C. A. Caulkins is the architect.

SAN RAFAEL HOUSING PROJECT TO START

A building permit has been issued to A. Von Rotz of San Anselmo for the construction of thirteen new residences in San Rafael at a cost of $8,400 each.

NEW Y. M. C. A. BUILDING FOR SAN MATEO

The Peninsula Young Men's Christian Association in Burlingame is constructing a 1-story frame and stucco building in San Mateo which will include a gymnasium, locker room, social hall, swimming pool, recreation, and administration offices.

The project will cost $170,000, according to Alfred W. Johnson of San Francisco who is the architect.

MARINE HOSPITAL ADDITION PLANNED

The U. S. Public Buildings Administration, Washington, D. C., is contemplating the construction of a $2,500,000 addition to the U. S. Marine Hospital in San Francisco, according to a recent announcement by architects D. D. Stone and Lou Mulloy of San Francisco.

The proposed addition will add two new wings of six story height to the hospital. Reinforced concrete and steel with brick veneer, plus two new elevators is planned.

RESIDENTIAL DEVELOPMENT STARTS AT SUNNYVALE

Joseph I. Eichler of Sunnyvale, Santa Clara County, has announced the construction of fifty-one new houses in Sunnyvale at an estimated cost of $7000 each.

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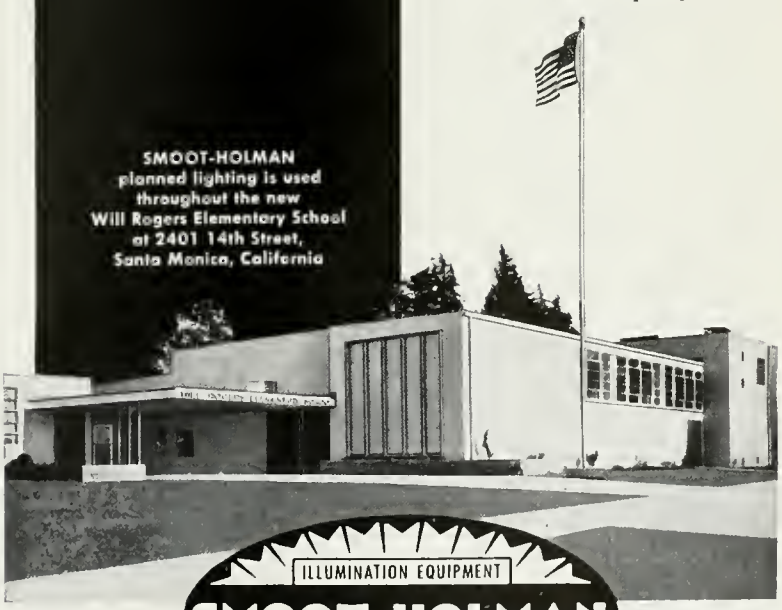

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BOOK REVIEWS
PAMPHLETS AND CATALOGUES

EUROPEAN ARCHITECTURE IN THE 20TH CENTURY. Vol. 1. By A. Whittick. Crosby Lockwood & Son, Ltd., 39 Thurloe Street, So. Kensington, London, S. W. 7, publishers. Price 30 —($4.20).

An illustrated history of the first half of the twentieth century divided into five parts with the first volume containing the first and second parts and covering the period to 1924.

The author introduces his subject by dealing broadly with the main European developments since the late eighteenth century, giving closer attention to the architectural movements of the second half of the nineteenth century and the early twentieth century. In dealing with architecture the author has endeavored to comprehend everything in building that may help to determine aesthetic character, and has thus considered as fully as possible the social and scientific aspects of building.

The book is very well illustrated presenting a pictorial survey of the period, and is a value to architects and students of architecture.

PRINCIPLES AND PRACTICE OF PRESTRESSED CONCRETE by P. W. Abeles. Frederick Ungar Publishing Co., New York. Price $3.75.

Pre-stressed concrete has become an important new material in structural and civil engineering and offers many advantages over conventional reinforced concrete.

The author, Dr. P. W. Abeles, D.Sc. (Vienna) M.I. Structural Engineer, has pursued the science of pre-stressed concrete and expounds them in this book; with many examples of European application where the art is more developed than in America.

Graphs, charts, photographs, and numerous drawings illustrate the principles involved, together with many technical notations and references.

MUSIC ROOMS AND EQUIPMENT. By Clarence J. Best, Ph.D. Music Educators National Conference, Chicago, Ill. Price $1.50.

The Music Educators National Conference and the Music Education Research Council have jointly sponsored the publication by Dr. Clarence J. Best, head of the Music Education Department of Texas Christian University in Fort Worth, which deals with the technical and scientific phases of planning new facilities or remodeling present facilities for music instruction in the schools.

The author covers a wide range of subjects pertaining to the planning of the physical plant for music, illustrating many points by photographs and charts.

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Any of the catalogues or folders described here may be obtained by forwarding your request as indicated in the coupon below to the office of the ARCHITECT & ENGINEER. *Merely mark the items you want and clip or paste the coupon to your letterhead.*

140. CONCRETE FLOORS

New 36-page illustrated booklet—The Masterplate Iron-Clad Concrete Floor—gives full information on the product and method which produce the nine features most important in industrial, commercial and institutional floors. 36 pages illus. 11/49.

141. LIGHTING CATALOG

A new catalog just released by the F. W. Wakefield Brass Co. covers their Over-All Lighting System with complete charts and diagrams. Installation details included. 40 pages illus. A.I.A. 31-F-23. 12/49.

142. MOVABLE METAL WALLS

Fully illustrated, the catalog includes complete detailed construction drawings and specifications data. Separate sections are devoted to the various types of Mills Movable Walls, Flush Pilaster, Executive, Semi-Flush and Commercial, as well as Flush Pilaster Wall Linings and Railings. Accessories, doors, ceilings, top fillers, wickets, grilles, shelving, counters, bookcases, glazing, hardware, etc., are also fully treated. 48 pages illus. 1/50.

143. ALUMINUM CLAPBOARD SIDING

Technical information and engineering details of the newly improved Kaiser Aluminum clapboard siding are given in a 16-page A.I.A. file issued by Kaiser Aluminum Chemical Sales, Inc. Architectural drawings are included to show various eave and window detail, methods of application at exterior and in-

terior corners, foundation and frieze board details, together with general construction information and specification. A.I.A. File 12C1, 16 pages illus. 1/50.

144. THERMAL INSULATION

The third revised edition of the Infra Insulation Corporation has been released. This Catalog covers all the uses of the Aluminum Infra Multiple Accordion Insulation with complete thermal charts and tables of strength as well as installation details. A.I.A. File 37-B-4, 44 pages illus., 11/49.

145. NEW CATALOG ON NAILOCK METHOD

The Nailock Method of Suspended Ceiling Construction, together with recent developments useful in installing ceilings with or without acoustical materials, are described and illustrated in the 1950 edition of the Nailock Catalog N-2. These developments include a new special Zipper Splice Lock Clip which holds adjoining ends of Nailock Nailing Channels in a rigid position and prevents bulges or depressions in the ceiling surface. Another important improvement is the innovation of the Metal End Lock Strip which holds adjoining sheets of backer-boards securely in place. A.I.A. File 39-B-1, 8 pages illus., 1/30.

146. SPECIAL PURPOSE SHEET STEELS

A booklet on Special Purpose Sheet Steels for Architectural Beauty and Permanence has recently been published by the Armco Steel Corporation. The booklet describes the properties and uses of Armco's stainless steels for commercial and home building. Sections on each of the special purpose steels give their architectural characteristics as well as illustrations of their uses in both exterior and interior applications. A.I.A. 6c-2, 12 pages illus. 9/49.

147. SLIDING DOOR LOCK

The Adams-Rite Company has released a catalog 49 describing the new Series 500 Sliding Door Lock which is now completely reversible. The catalog also introduces a new series of cremone bolts, new light pattern pulls; a new sash bolt for passing sliding sash and an improved edge pull. Illus. 2/50.

148. DOORS FOR SPECIAL SERVICES

The 1950 Catalog is available for Bilco Doors. The catalog is well illustrated with complete specification and installation details. The types of door covers shown are roof scuttles or hatchways; sidewalk elevator and ash hoist doors, transformer vault and pit doors; also the all metal "Celladoors." 12 pages, illus. 1/50.

149. REMOTE CONTROL WIRING

The Construction Materials Department of General Electric has published a new booklet covering a new method of lighting control for home, farm and industry. As explained in the booklet, the principal advantage of this system is that lights, outlets, or small appliances may be switched on or off from any number of points outside the building. Complete details of this low-voltage (24 volts) system are found in this book together with illustrations of material and installation methods. 16 pages, illus. 2/50.

150. CORNELL ROLLING DOORS

The new catalog no. Z-27 published by the Cornell Iron Works gives complete details on their rolling steel grilles, sliding steel grilles, moving stairway enclosures, side rolling partitions and special upward acting doors. The illustrations show numerous interesting architectural uses of rolling grilles and include excellent specification material. A.I.A. 16-D-13, 12 pages illus. 12/49.

ARCHITECT AND ENGINEER,
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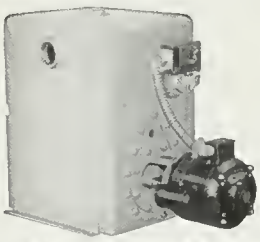

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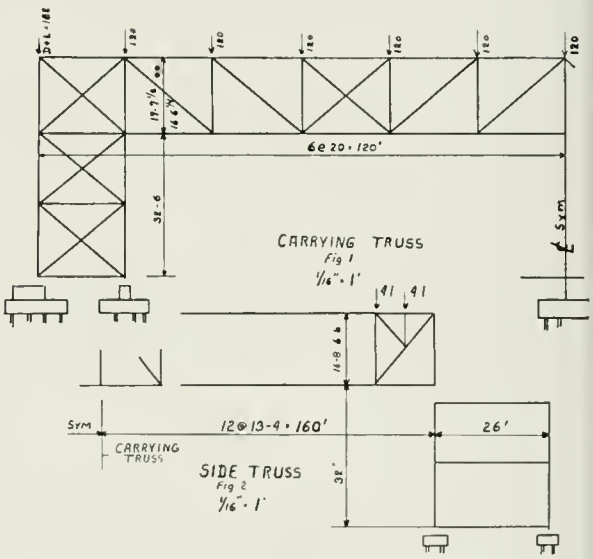
Foundation Structural Design and Economics

(From Page 17)

and laterally when transverse forces are applied.

A large steel hangar 252'x372' provides another example. A carrying truss, 240' long, (fig. 1), is supported at each end and at the midpoint. The truss carries 160' side trusses, (fig 2), these trusses being spaced at 20'. A control tower rises at one corner of the building.

Now let us consider horizontal forces acting upon the carrying truss. Wind stresses rule, due to the height of the structure and the considerable spans. Bureau of Yards and Docks criteria governed the design. Accordingly, the tower on the windward side resisted ½ of the wind above the lower chord of the truss, and ¾ of the wind below the lower chord. The leeward tower accounted for ½ and ¼ of the respective forces. With the reactions established, the entire frame was analyzed as a continuous truss.



The side trusses, fig. 2 are supported at the outer ends by welded rigid bents. Seismic forces exceeded wind, due to the fact that the bents carried rather heavy floor loads.

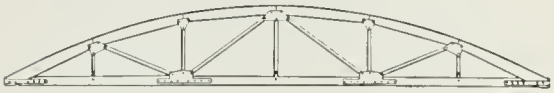
Now consider a footing supporting a 600-kip column load. This required 24 creosoted timber piles 28' long and a reinforced pile cap 11'-6"x 17'-6"x4'. The total cost in place was approximately $2130. A spread footing for the same load would have been 41' square x 46" thick, with an in-place cost of $4380. This would have been 2.06 times as much as the pile footing cost, so the former was selected.

The creosoted timber piles were selected after an economic and functional study of all practical types. These piles were the most economical even though the Bureau of Yards and Docks limited loads to 20 tons.

A slender steel tower 150' high was set upon piles. Wind naturally caused uplift on pile groups. U-shaped steel bands passed over the reinforcing and were bolted to the piles.

In summary, the experiences just related demonstrate again that different types of structures require various kinds of footings even though the foundation conditions are almost identical. Comparative designs and accurate cost figures are required in order to arrive at correct answers subsequent to a thorough soil investigation.

MONOCORD TIMBER TRUSSES



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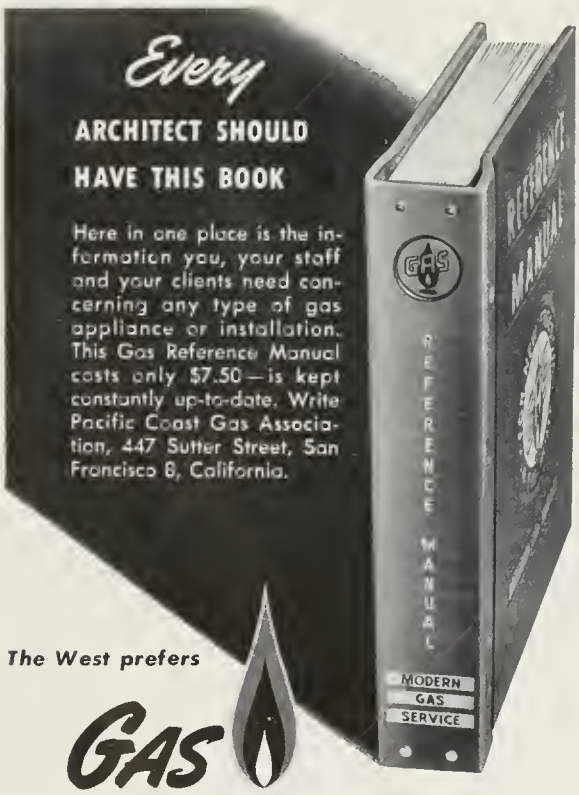
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ESTIMATOR'S GUIDE

BUILDING AND CONSTRUCTION MATERIALS

PRICES GIVEN ARE FIGURING PRICES AND ARE MADE UP FROM AVERAGE QUOTATIONS FURNISHED BY MATERIAL HOUSES TO SAN FRANCISCO CONTRACTORS. 3% SALES TAX ON ALL MATERIALS BUT NOT LABOR

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

BONDS—Performance or Performance plus Labor and Material Bond(s), $10 per $1000 on contract price. Labor & Material Bond(s) only, $5.00 per $1000 on contract price.

BRICKWORK—

Common Brick—Per 1M laid—$100.00 up (according to class of work).

Face Brick—Per 1M laid—$200.00 and up (according to class of work).

Brick Steps—$3.00 and up.

Common Brick Veneer on Frame Bldgs.—Approx. $1.20 and up—according to class of work).

Face Brick Veneer on Frame Bldgs.—Approx. $2.00 and up (according to class of work).

Common Brick—$33.00 per M—truckload lots, delivered.

Face Brick—$50.00 to $90.00 per M, truckload lots, delivered.

Fire Brick—Per M—$90.00 to $125.00.

Cartage—Approx. $9.00 per M.

Paving—$75.00.

BUILDING PAPER & FELTS

1 ply per 1000 ft. roll	$5.30
2 ply per 1000 ft. roll	7.80
3 ply per 1000 ft. roll	9.70
Brownskin, Standard 500 ft. roll	6.85
Sisalkraft, reinforced, 500 ft. roll	7.00
Sheathing Papers—	
Asphalt sheathing, 15-lb. roll	$2.20
30-lb. roll	2.93
Campcourse, 216-ft. roll	2.95
Blue Plasterboard, 60-lb. roll	5.10
Felt Papers—	
Deadening felt, 3/4-lb., 50-ft. roll	$3.13
Deadening felt, 1-lb.	3.69
Asphalt roofing, 15 lbs.	2.20
Asphalt roofing, 30 lbs.	2.93
Roofing Papers—	
Standard Grade, 108-ft. roll, Light	$1.75
Medium	2.04
Heavy	2.40
Extra Heavy	2.77

BUILDING HARDWARE—

Sash cord com. No. 7	$2.65 per 100 ft.
Sash cord com. No. 8	3.80 per 100 ft.
Sash cord spot No. 7	3.65 per 100 ft.
Sash cord spot No. 8	4.00 per 100 ft.
Sash weights, cast iron, $100.00 ton.	
1-Ton lots, per 100 lbs.	$3.75
Less than 1-ton lots, per 100 lbs.	$4.75
Nails, per keg, base	$10.55
8-in. spikes	10.55
Rim Knob lock sets	1.80
Butts, dull brass plated on steel, 3½x3½	.73

CONCRETE AGGREGATES—

The following prices net to Contractors unless otherwise shown. Carload lots only.

	Bunker per ton	Del'd per ton
Gravel, all sizes	$2.44	$2.90
Top Sand	2.38	3.13
Concrete Mix	2.38	3.06
Crushed Rock, 1/4" to 3/4"	2.38	2.90
Crushed Rock, 3/4" to 1½"	2.38	2.90
Roofing Gravel	2.81	2.90
River Sand	2.50	3.00
Sand—		
Lapis (Nos. 2 & 4)	3.56	3.94
Olympia (Nos. 1 & 2)	3.56	3.88

Cement—

Common (all brands, paper sacks), carload lots, $3.38 per bbl. f.o.b. car; delivered $3.60.

Per Sack, small quantity (paper) $1.00

Carload lots, in bulk per bbl. 2.78

Cash discount on carload lots, 10c a bbl., 10th Prox., less than carload lots $4.00 per bbl. f.o.b. warehouse or delivered.

Cash discount 2% on L.C.L.

Trinity White, Medusa White — 1 to 100 sacks, $3.13 sack warehouse or del.; $9.56 bbl. carload lots.

CONCRETE READY-MIX—

1-2-4 mix, to 10 yards*	$11.75
10 to 100 yards*	10.75
Over 100 yards*	10.25

* Delivered to site.

CONCRETE BLOCKS—

	Haydite	Basalt
4x8x16-inches, each	$.16	$.16
6x8x16-inches, each	.21	.21
8x8x16-inches, each	.25	.25
12x8x16-inches, each	.33	
12x8x24-inches, each		.60

Haydite Aggregates—

3/4-inch to 3/8-inch, per cu. yd.	$6.50
3/8-inch to 1/16-inch, per cu. yd.	6.50
1/8-inch to 0-inch, per cu. yd.	7.00

DAMPPROOFING and Waterproofing—

Two-coat work, $9.00 per square.

Membrane waterproofing—4 layers of saturated felt, $10.00 per square.

Hot coating work, $5.00 per square.

Medusa Waterproofing, $3.50 per lb. San Francisco Warehouse.

Tricosal concrete waterproofing. 50c a cubic yd. and up.

ELECTRIC WIRING—$15 to $20 per outlet for conduit work (including switches).

Knob and tube average $6.00 per outlet. (Available only for priority work.)

ELEVATORS—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing a slow speed automatic passenger elevator in small four story apartment building, including entrance doors, about $8000.00.

EXCAVATION—

Sand, $1.00; clay or shale, $1.50 per yard.

Trucks, $30 to $45 per day.

Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

FIRE ESCAPES—

Ten-foot galvanized iron balcony, with stairs, $250 installed on new buildings; $300 on old buildings.

FLOORS—

Composition Floors, such as Magnesite, 50c per square foot.

Linoflor—2 gages—$3.00 per sq. yd.

Mastipave—$1.50 per sq. yd.

Battleship Linoleum—available to Army and Navy only—1/8"—$3.50 sq. yd. 3/16"—$3.50 sq. yd.

Terazzo Floors—$1.50 per sq. ft.

Terazzo Steps—$2.50 per lin. ft.

Mastic Wear Coat—according to type—20c to 35c.

Hardwood Flooring—

Standard Mill grades not available.

Victory Oak— T & G

3/8 x 2¼"	$252.00 per M. plus Cartage
½ x 2"	$210.00
½" x 1½"	200.00

Prefinished Standard & Better Oak Flooring

3/8 x 3¼"	$265.00 per M. plus Cartage
½ x 2½"	237.00 per M. plus Cartage

Maple Flooring

3/8" T & G Clear	$330.00 per M. plus Ctg.
2nd	305.00 per M. plus Ctg.
3rd	255.00 per M. plus Ctg.

Floor Layers' Wage, $2.28½ per hr. (Legal as of July 1, 1947. Given us by Inlaid Floor Co.)

GLASS—

Single Strength Window Glass	$ .25 per □ ft.
Double Strength Window Glass	.35 per □ ft.
Plate Glass, under 75 sq. ft.	2.00 per □ ft.
1/4 in. Polished Wire Plate Glass	1.00 per □ ft.
1/4 in. Rgh. Wire Glass	.58 per □ ft.
Obscure Glass	.45 per □ ft.
Glazing of above is additional.	
Glass Blocks	$2.75 per □ ft. set in place

HEATING—

Average, $2.50 to $3.00 per sq. ft. of radiation, according to conditions.

Warm air (gravity) average $64 per register.

Forced air average $91 per register.

INSULATION AND WALLBOARD—

Rockwool Insulation—
(2") ..... $65.00 per M sq. ft.
Cotton Insulation—Full-thickness
(3⅜") ..... $95.50 per M sq. ft.
Sisalation Aluminum Insulation—Aluminum coated on both sides ..... $23.50 per M sq. ft.
Tileboard—4'x6' panel ..... $9.00 per panel
Wallboard—½" thickness ..... $55.00 per M sq. ft.
Finished Plank ..... $69.00 per M sq. ft.
Ceiling Tileboard ..... $69.00 per M sq. ft.

IRON—Cost of ornamental iron, cast iron, etc., depends on designs.

LUMBER—

No. 1 Common ..... $85.00 per M
No. 2 Common ..... 83.00 per M
Select O. P. Common ..... 90.00 per M

Flooring—

	Per M Delvd.
V.G.-D.F. B & Btr. 1 x 4 T & G Flooring	$225.00
"C" and better—all	225.00
"D" and better—all	225.00
Rwd. Rustic—"A" grade, medium dry, 6 to 24 ft.	185.00
"B" grade, medium dry	150.00

Plywood ..... 18c to 20c per ft.
Plyscord ..... 11½c per ft.
Plywall ..... 9c per ft.
Plyform ..... 15c per ft.

Shingles (Rwd. not available)—
Red Cedar No. 1—$9.50 per square; No. 2, $7.00; No. 3, $5.00.
Average cost to lay shingles, $6.00 per square.
Cedar Shakes—½" to ¾" x 24/26 in handsplit tapered or split resawn, per square $15.25
¾" to 1¼" x 24/26 in split resawn, per square 17.00
Average cost to lay shakes,— 8.00 per square

MARBLE—(See Dealers)

METAL LATH EXPANDED—

Standard Diamond, 3.44, Copper Bearing, per carloads, per 100 sq. yds. $35.50
Standard Ribbed, ditto 37.70

MILLWORK—Standard.

D. F. $150 per 1000. R. W. Rustic $175 per 1000 (delivered).
Double hung box window frames, average with trim, $12.50 and up, each.
Complete door unit, $15 to $25.
Screen doors, $8.00 to $12.00 each.
Patent screen windows, $1.25 a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., upper $9.00 to $11.00; lower $12.00 to $13.00.
Dining room cases, $20.00 per lineal foot. Rough and finish about $1.00 per sq. ft.
Labor—Rough carpentry, warehouse heavy framing (average), $75.00 per M.
For smaller work average, $85.00 to $100. per 1000.

PAINTING—

Two-coat work ..... per yard 85c
Three-coat work ..... per yard $1.10
Cold water painting ..... per yard 25c
Whitewashing ..... per yard 15c
Turpentine ..... $1.85 per gal. in 5-gal. cont.
Raw Linseed Oil ..... $3.33 per gal. in 5-gal. cont.
Boiled Linseed Oil ..... $3.23 per gal. in drums.
Boiled Linseed Oil—$3.33 per gal. in 5-gal. containers.
Replacement Oil—$2.75 per gal. in drums. $2.75 per gal. in 5-gal. containers.
Use Replacement Oil ..... $3.00 per gal. in 1 gal. cont.
A deposit of $7.50 required on all drums.

PATENT CHIMNEYS—

6-inch	$2.50 lineal foot
8-inch	3.00 lineal foot
10-inch	4.00 lineal foot
12-inch	5.00 lineal foot

PLASTER—

Neat wall, per ton delivered in S. F. in paper bags, $17.60.

PLASTERING (Interior)—

	Yard
3 Coats, metal lath and plaster	$3.00
Keene cement on metal lath	3.50
Ceilings with ¾ hot roll channels metal lath (lathed only)	3.00
Ceilings with ¾ hot roll channels metal lath plastered	4.50
Single partition ¾ channel lath 1 side (lath only	3.00
Single partition ¾ channel lath 2 inches thick plastered	8.00
4-inch double partition ¾ channel lath 2 sides (lath only)	5.75
4-inch double partition ¾ channel lath 2 sides plastered	8.75
Thermax single partition; 1" channels; 2¼" overall partition width. Plastered both sides	7.50
Thermax double partition; 1" channels; 4¾" overall partition width. Plastered both sides	11.00
3 Coats over 1" Thermax nailed to one side wood studs or joists	4.50
3 Coats over 1" Thermax suspended to one side wood studs with spring sound isolation clip	5.00

Note—Channel lath controlled by limitation orders.

PLASTERING (Exterior)—

	Yard
2 coats cement finish, brick or concrete wall	$2.50
3 coats cement finish, No. 18 gauge wire mesh	3.50

Lime—$4.00 per bbl. at yard.
Processed LLiLme—$4.15 per bbl. at yard.
Rock or Grip Lath—⅜"—30c per sq. yd.
½"—29c per sq. yd.

Composition Stucco—$4.00 sq. yard (applied).

PLUMBING—

From $200.00 per fixture up, according to grade, quality and runs.

ROOFING—

"Standard" tar and gravel, 4 ply—$11.00 per sq. for 30 sqs. or over.
Less than 30 sqs. $14.00 per sq.
Tile $40.00 to $50.00 per square.
No. 1 Redwood Cedar in place, 4½ in. exposure, per square $18.25
5/2 No. 1 Cedar Shingles, 5 in. exposure, per square 14.50
5/8 x 16"—No. 1 Little Giant Cedar Shingles, 5" exposure, per square .. 18.25
4/2 No. 1-24" Royal Cedar Shingles 7½" exposure, per square 23.00
Re-coat with Gravel $5.50 per sq.
Asbestos Shingles $35 to $45 per sq. laid.
½ to ¾ x 25" Resewn Cedar Shakes, 10" Exposure $24.00
¾ to 1¼ x 25" Resawn Cedar Shakes, 10" Exposure $29.00
1 x 25" Resawn Cedar Shakes, 10" Exposure 22.00
Above prices are for shakes in place.

SEWER PIPE—

C.I. 6-in. to 24-in. B. & S. Class B and heavier, per ton $99.50
Vitrified, per foot:
Standard, 8-in. ..... $ .62
Standard, 12-in. 1.09
Standard, 24-in. 4.72
Clay Drain Pipe, per 1,000 L.F. in carload lots:
Standard, 6-in. $211.00
Standard, 8-in. 352.00

SHEET METAL—

Windows—Metal, $2.50 a sq. ft.
Fire doors (average), including hardware $2.80 per sq. ft., size 12'x12'. $3.75 per sq. ft., size 3'x6'.

SKYLIGHTS—(not glazed)

Copper, $1.25 sq. ft. (flat).
Galvanized iron, 65c sq. ft. (flat).
Vented hip skylights, $1.50 sq. ft.

STEEL—STRUCTURAL—

$220 per ton erected, when out of mill.
$270 per ton erected, when out of stock.

STEEL REINFORCING—

$200.00 per ton, in place.

¼-in. Rd.	$7.15
⅜-in. Rd.	6.40
½-in. Rd.	6.20
⅝-in. Rd.	6.05
¾-in. & ⅞-in. Rd.	6.00
1-in. & up	5.95

STORE FRONTS (None available).

TILE—

Ceramic Tile Floors—Commercial $1.15 to $1.50.
Cove Base—$1.35 per lin. ft.
Tile Wainscot & Floors—Residential $1.50 to $1.75.
Tile Wainscot—Commercial $1.35 to $1.50.
Asphalt Tile Floor ⅛" x ⅜"—$ .40 per sq. ft. Light shades slightly higher.
Cork Tile—$1.00 per sq. ft.
Mosaic Floors—See dealers.
Lino-Tile—$1.00 per sq. ft.

Wall Tile—
Glazed Terra Cotta Wall Units (single faced) laid in place—approximate prices:

2 x 6 x 12	$1.25 sq. ft.
4 x 6 x 12	1.50 sq. ft.
2 x 8 x 16	1.45 sq. ft.
4 x 8 x 16	1.75 sq. ft.

Building Tile—

8x5½x12-inches, per M	$139.50
6x5½x12-inches, per M	105.00
4x5½x12-inches, per M	84.00

Hollow Tile—

12x12x3-inches, per M	$124.00
12x12x4-inches, per M	139.50
12x12x0-inches, per M	176.00

VENETIAN BLINDS—

75c per square foot and up. Installation extra.

WINDOWS—STEEL—

60c per square foot, $5 for ventilators.

ESTIMATOR'S DIRECTORY

Building And Construction Materials

EXPLANATION—Building and construction materials are shown in major classified groups for general identification purposes with names and addresses of suppliers of materials listed in detail under group classification where name first appears—main offices are shown first, with branch or district offices following. The numeral appearing in listings refers to the major group classification where complete data on the dealer, or representative, may be found.

CKWORK (1)

Brick

LADDING, McBEAN & CO.
n Francisco: Harrison at 9th Sts., UN 1-7400
s Angeles: 2901 Los Feliz Blvd., OL 2121
ffices at Portland, Seattle, Spokane

RAFTILE
iles, California, Niles 3611
n Francisco 5: 50 Hawthorne St., DO 2-3780
s Angeles 13: 406 South Main St., MU 7241

MILLARD-DANDINI CO.
n Francisco: 400 Montgomery St., EX 2-4988

mic Veneer

ACIFIC CLAY PRODUCTS
n Francisco: 605 Market St., GA 1-3970
s Angeles, Portland, Salt Lake City

LDING PAPER & FELTS (2)

SALKRAFT COMPANY
n Francisco: 55 New Montgomery St., EX 2-3066
nicago, Ill.: 205 West Wacker Drive

NGIER PACIFIC CORP.
n Francisco 5: 55 New Montgomery St., DO 2-4416
s Angeles: 7424 Sunset Boulevard

LDING HARDWARE (3)

HE STANLEY WORKS
n Francisco: Monadnock Bldg., YU 6-5914
ew Britain, Conn.

NCRETE AGGREGATES (4)

ent

ACIFIC PORTLAND CEMENT
n Francisco: 417 Montgomery St., GA 1-4100

tweight Aggregates

MERICAN PERLITE CORP.
chmond, Calif.: 26th & B Sts.—Yard 2, RI 4307

E ESCAPES (5)

OULE STEEL
n Francisco: 1750 Army St., VA 4-4141
s Angeles, Calif.—LA 0911
rtland, Ore.—BE 5155
attle, Wash.—SE 3010

ICHEL & PFEFFER IRON WORKS, INC.
n Francisco 3: Tenth & Harrison Sts., MA 1-5966

FLOORS (6)

Hardwood Flooring

HOGAN LUMBER COMPANY
Oakland: Second and Alice Sts., GL 1-6861

E. K. WOOD LUMBER CO.
Los Angeles: 4710 S. Alameda St., JE 3111
Oakland: 727 Kennedy St., KE 4-8466
Portland: 827 Terminal Sales Building

GLASS (7)

W. P. FULLER COMPANY
San Francisco: 301 Mission St., EX 2-7151
Los Angeles, Calif.
Portland, Oregon

HEATING (8)

HENDERSON FURNACE & MFG. CO.
Sebastopol, Calif.

S. T. JOHNSON CO.
Oakland 8: 940 Arlington Ave., OL 2-6000
San Francisco: 585 Potrero Ave., MA 1-2757
Philadelphia 8, Pa.: 401 No. Broad St.

SCOTT COMPANY
San Francisco: 243 Minna St., YU 2-0400
Oakland: 113 - 10th St., GL 1-1937
San Jose, Calif.
Los Angeles, Calif.

THOMAS B. HUNTER (Designer)
San Francisco: 41 Sutter St., GA 1-1164

INSULATION AND WALLBOARD (9)

LUMBER MANUFACTURING CO.
San Francisco: 225 Industrial Ave., JU 7-1760

SISALKRAFT COMPANY *(2)

WESTERN ASBESTOS COMPANY
San Francisco: 675 Townsend St., KL 2-3868
Oakland: 251 Fifth Avenue, GL 1-2345
Sacramento: 1224 I Street, 2-8993
Stockton: 1120 E. Weber Ave., 4-1863
Fresno: 1837 Merced Street, 3-3277
San Jose: 201 So. Market St., BA 4359-J

IRON—Ornamental (10)

MICHEL & PFEFFER IRON WORKS, INC. *(5)

LIGHTING FIXTURES (11)

SMOOT-HOLMAN COMPANY
San Francisco: 55 Mississippi St., MA 1-8474

LUMBER (12)

HOGAN LUMBER COMPANY *(6)

LUMBER MANUFACTURING CO. *(9)

E. K. WOOD LUMBER CO *(6)

Shingles

SIDEWALL LUMBER COMPANY
San Francisco 24: 1995 Oakdale Ave., AT 2-8112

MARBLE (13)

VERMONT MARBLE COMPANY
San Francisco: 525 Market St., SU 1-6747
Los Angeles 4: 3522 Council St., FA 7834

METAL LATH EXPANDED (14)

FORDERER CORNICE WORKS
San Francisco: 269 Potrero Ave., HE 1-4100

SOULE STEEL *(5)

MILLWORK (15)

PACIFIC MANUFACTURING COMPANY
San Francisco: 16 Beale St., GA 1-7755
Santa Clara: 2610 The Alameda, SC 607
Los Angeles: 6820 McKinley Ave., TH 4196

MULLEN MANUFACTURING COMPANY
San Francisco: 60-80 Rausch St., UN 1-5815

LUMBER MANUFACTURING COMPANY *(9)

PAINTING (16)

THE TORMEY COMPANY
San Francisco: 563 Fulton St., UN 1-1913

Paint

W. P. FULLER COMPANY *(7)

Wood Preservatives

GUNN CARLE & COMPANY
San Francisco: 20 Potrero Ave., UN 1-5480

PLASTER (17)

Exteriors

PACIFIC PORTLAND CEMENT COMPANY*(4)

Interiors—Metal Lath & Trim

FORDERER CORNICE WORKS *(14)

PLUMBING (18)

THE SCOTT COMPANY *(8)

THE HALSEY TAYLOR COMPANY
Redlands, Calif.
Warren, Ohio

HAWS DRINKING FAUCET COMPANY
Berkeley 10: 1435 Fourth St., LA 5-3341

CONTINENTAL WATER HEATER COMPANY
Los Angeles 31: 1801 Pasadena Ave., CA 6178

SIMONDS MACHINERY COMPANY
San Francisco: 816 Folsom St., DO 2-6794
Los Angeles: 455 East 4th St., MU 8322

SECURITY VALVE COMPANY
Los Angeles 31: 410 San Fernando Road, CA 6191

SEWER PIPE (19)

GLADDING, McBEAN & CO. *(1)

SHEET METAL (20)

Windows

DETROIT STEEL PRODUCTS COMPANY
Oakland 8: 1310 - 63rd St., OL 2-8826
San Francisco: Russ Building, DO 2-0890

MICHEL & PFEFFER IRON WORKS, INC. *(5)

SOULE STEEL COMPANY *(5)

Fire Doors

DETROIT STEEL PRODUCTS COMPANY

Skylights

DETROIT STEEL PRODUCTS COMPANY

STEEL—STRUCTURAL (21)

HERRICK IRON WORKS
Oakland: 18th & Campbell Sts., GL 1-1767

JUDSON PACIFIC-MURPHY CORP.
Emeryville: 4300 Eastshore Highway, OL 3-1717

REPUBLIC STEEL CORP.
San Francisco: 116 N. Montgomery St., GA 1-0977
Los Angeles: Edison Building
Seattle: White-Henry-Stuart Building
Salt Lake City: Walker Bank Building
Denver: Continental Oil Building

KRAFTILE COMPANY *(1)

SAN JOSE STEEL COMPANY
San Jose: 195 North Thirtieth St., CO 4184

STEEL—REINFORCING (22)

REPUBLIC STEEL CORP. *(21)

HERRICK IORN WORKS *(21)

SAN JOSE STEEL CO. *(21)

TILE (23)

GLADDING, McBEAN & CO. *(1)

KRAFTILE COMPANY *(1)

WALL TILE (24)

GLADDING, McBEAN & CO. *(1)

KRAFTILE COMPANY *(1)

WINDOWS STEEL (25)

DETROIT STEEL PRODUCTS CO. *(20)

MICHEL & PFEFFER IRON WORKS, INC.

SOULE STEEL COMPANY *(5)

GENERAL CONTRACTORS (26)

DINWIDDIE CONSTRUCTION COMPAN
San Francisco: Crocker Building, YU 6-2718

CLINTON CONSTRUCTION COMPANY
San Francisco: 923 Folsom St., SU 1-3440

MATTOCK CONSTRUCTION COMPANY
San Francisco: 604 Mission St., GA 1-5516

STOLTE, INC.
Oakland: 8451 San Leandro Blvd., TR 2-106

SWINERTON & WALBERG COMPANY
San Francisco: 225 Bush St., GA 1-2980
Oakland: 1723 Webster St., HI 4-4322
Los Angeles, Sacramento, Denver

P. J. WALKER COMPANY
San Francisco: 391 Sutter St., YU 6-5916
Los Angeles: 3920 Whiteside St., AN 9-856

TESTING LABORATORIES (ENGINEERS & CHEMISTS) (27)

ABBOT A. HANKS, INC.
San Francisco: 624 Sacramento St., GA 1-1

ROBERT W. HUNT COMPANY
San Francisco: 251 Kearny St., EX 2-4634
Los Angeles: 3050 E. Slauson, JE 9131
Chicago, New York, Pittsburgh
Pittsburgh Testing Laboratory
San Francisco: 651 Howard St., EX 2-1747

BUILDING TRADES WAGE (JOB SITES) NORTHERN, CENTRAL AND SOUTHERN CALIFORNIA

ATTENTION: The following are the PREVAILING hourly rates of compensation being paid and in effect by employers by agreement between employees and their union; or as recognized and determined by the U. S. Department of Labor. (Revised to Sept. 1, 1949.)

CRAFT	San Francisco	Alameda	Contra Costa	Fresno	Sacramento	Santa Clara	Solano	Stockton	Los Angeles	San Bernardino	San Diego	Santa Barbara	Kern
ASBESTOS WORKERS	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.25	$2.25	$2.25	$2.25	$2.25
BRICKLAYERS	3.00*	3.00	3.00	2.50	3.00	3.00	3.00	2.05*	2.265	2.50	2.50	2.625	2.50
BRICKLAYERS, HODCARRIERS	2.25	2.25	2.25	2.00	2.00	1.75	2.25	1.60*	1.75	1.75	1.75	1.75	1.75
CARPENTERS	2.16	2.16	2.175	2.175	2.175	2.175	2.175	2.175	2.12	2.12	2.12	2.12	2.12
CEMENT FINISHERS	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20
ELECTRICIANS	2.50	2.50	2.50	2.25	2.50	2.50	2.40	2.40	2.40	2.40	2.375	2.40	2.15
ELEVATOR CONSTRUCTORS	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.25	2.25	2.25	2.25	2.25
ENGINEERS: MATERIAL HOIST	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	1.9875	1.9875	1.9875	1.9875	1.9875
PILE DRIVER	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.32	2.32	2.32	2.32	2.32
STRUCTURAL STEEL	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.30	2.30	2.2375	2.30	2.30
GLAZIERS	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.96
IRONWORKERS: ORNAMENTAL	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.175	2.175	2.1125	2.175	2.175
REINF. RODMEN	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.20	2.20	2.20	2.20	2.20
STRUCTURAL	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.30	2.30	2.2375	2.30	2.30
LABORERS: BUILDING	1.55	1.55	1.55	1.45	1.55	1.45	1.55	1.55	1.57	1.57	1.57	1.57	1.57
CONCRETE	1.55	1.55	1.55	1.45	1.55	1.45	1.55	1.55	1.57	1.57	1.57	1.57	1.57
LATHERS	2.8125	2.8125	2.8125	2.8125	2.00*	2.50*	2.8125	2.8125	2.50	2.50	2.50	2.50	2.50
MARBLE SETTERS	2.375	2.375	2.375	2.375	2.375	2.375	2.375	2.375	2.25	2.25	2.25	2.25	2.25
MOSAIC & TERRAZZO	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.40	2.40	2.20	2.40	2.40
PAINTERS	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.00	1.90	2.10	2.18	2.25
PILEDRIVERS	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25
PLASTERERS	2.8125	2.50*	2.50*	2.25*	2.25*	2.50*	2.50*	2.8125	2.50	2.75	2.50	2.50	2.50
PLASTERERS, HODCARRIERS	2.50	2.25*	2.25*	1.775*	2.00*	2.00*	2.25*	2.16	2.15	2.25	2.30	2.00	2.00
PLUMBERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
ROOFERS	2.25	2.25	2.25	1.875	2.00	2.00	2.16	2.25	2.25	2.00	1.90	2.00	2.00
SHEET METAL WORKERS	2.25	2.25	2.25	2.125	2.30	2.40	2.125	2.125	2.15	2.15	2.175	2.00	2.15
SPRINKLER FITTERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.25	2.25	2.25	2.25	2.25
STEAMFITTERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
STONESETTERS (MASONS)	3.00	2.8125	2.8125	2.25*	2.8125	2.8125	2.8125	2.05*	1.50	1.50	1.50	2.625	1.715
TILESETTERS	2.675	2.675	2.675	2.15	2.00	2.675	2.675	2.4375	2.50	2.50	2.20	2.50	2.25

* 6 Hour Day. ** 7 Hour Day.

Prepared and compiled by:
CENTRAL CALIFORNIA CHAPTER, ASSOCIATED GENERAL CONTRACTORS OF AMERICA, with the assistance and cooperation of secretaries of General Contractors Associations and Builders Exchanges of Northern California; and the above information for southern California is furnished by the Labor Relations Department of the Southern California Chapter, ASSOCIATED GENERAL CONTRACTORS OF AMERICA.

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Curling of Concrete Floor Topping

(From Page 14)

to lay properly proportioned topping over large areas with no joints whatsoever excepting such as are necessary at the end of a day's run, or over joints in the structural slab.

7. Thorough curing of the floor finish by wetting down continually for at least 10 days.

8. By avoiding high air temperatures and low relative humidities during the first few days following moist curing. The floor should dry out slowly and uniformly. It is very important to maintain a fairly uniform drying rate throughout the entire thickness of the floor finish and the fill if the latter is integral with the topping. A uniform drying rate will aid in reducing warping to a minimum.

Examples of Foundation Analysis

(From Page 17)

When piles are used in groups, the bearing capacity as determined for single piles is reduced, and it is necessary to increase the length of the piles to meet this condition. The procedure used for calculating this factor was to first determine an efficiency, E, for the pile in a group, then divide the design load per pile by this value and recalculate the length of the pile to carry the new load.

Timber piles should be pressure treated with hot creosote where they extend above the water table or otherwise protected against decay. A composite pile of untreated timber below the water table and concrete above may be economical. The design lengths will be the same as for full timber piles.

Precast straight sided concrete piles were calculated on the basis of an angle of friction of 20° between sand and concrete, using a normal load equal to the weight of the soil above the mid-point of the pile. End bearing was also added. This procedure was also used for the straight part of the Union Metal piles.

Jetting will probably be necessary in order to reach the required depths. The piles should be driven at least 2 feet beyond the maximum depths of the jet, and/or to "refusal." "Refusal" should be determined by an appropriate dynamic pile driving formula after the type of pile and driving equipment have been selected. The Hiley formula is preferred.

Several test piles were driven in the area, one being driven to refusal without jetting, and others being jetted and driven to the design depth. One of those driven to the design depth was given a load test. The results of this test indicate that the pile is safe for the design load.

A cluster of 4 piles was also tested to twice the design load. The settlement of the cluster was less than that of the single pile. This was probably due to the difference in disturbance caused by the jetting, and possibly also by some difference in the character of the soil, since the two tests were some distance apart.

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CONSTRUCTION CONTRACTS AWARDED AND MISCELLANEOUS PERSONNEL DATA

GRAMMAR SCHOOL ADDITION — SHELDON, SACRAMENTO COUNTY. Pleasant Grove Elementary School District, owner. 3 classrooms & office & toilet rooms, $45,224. ARCHITECT: Gordon Stafford, Sacramento; frame & stucco construction. GENERAL CONTRACTOR: Lawrence Construction Co., Sacramento.

CHANCERY BUILDING SACRAMENTO, SACRAMENTO COUNTY. Roman Catholic Diocese of Sacramento, owner, $75,000. ARCHITECT: Harry J. Devine, Sacramento; 3 story & basement, reinforced concrete & frame construction. GENERAL CONTRACTOR: Lawrence Construction Co., Sacramento.

SALES & SERVICE BUILDING — BURLINGAME, SAN MATEO COUNTY. Superior Bus & Ambulance Sales Co., owner, $35,000. DESIGNER: Roy J. Lane, San Mateo. GENERAL CONTRACTOR: Carlray Co., San Carlos.

OFFICE & WAREHOUSE — EMERYVILLE, ALAMEDA COUNTY. General Electric Supply Corporation, Oakland, $270,600. ARCHITECTS: W. G. Corlett & A. W. Anderson, Oakland; 1 story, reinforced concrete & light steel frame. GENERAL CONTRACTOR: Parker, Steffens & Pearce, San Francisco.

CLIFT HOTEL REMODEL — SAN FRANCISCO. Clift Hotel, owner; basement & service area; $150,000. ARCHITECT: Gardner A. Dailey, San Francisco. Interior remodel. GENERAL CONTRACTOR: Jacks & Irvine, San Francisco.

STORE BUILDING — DALY CITY, SAN MATEO COUNTY. A. J. Herzig, owner, $25,000. ARCHITECT: J. Lloyd Conrich, San Francisco. 1 story.

CALEB GREENWOOD GRAMMAR SCHOOL —SACRAMENTO, SACRAMENTO COUNTY. Sacramento Board of Education, owner. 4 classrooms, kindergarten, offices & toilet rooms, $126,413. ARCHITECT: Geo. C. Sellon, Sacramento; frame & stucco construction. GENERAL CONTRACTOR: Lawrence Construction C., Sacramento.

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BAR, RESTAURANT & BAKERY SAN FRANCISCO. D & W Foods, Inc., owner, $50,000. ARCHITECT: Clarence W. W. Mayhew, San Francisco; frame & stucco construction, some stone veneer. GENERAL CONTRACTOR: Barrett & Hilp, San Francisco.

NEW WALTER T. HELMS JR. HIGH SCHOOL SAN PABLO, CONTRA COSTA COUNTY. Richmond Union High School District, owner. 46 classrooms, administration, laboratories, domestic science, library, study hall, gymnasium, cafeteria, shops, etc., $1,596,700. ARCHITECT: Dragon, Schmidts & Hardman, Berkeley. 2 story, reinforced concrete construction. GENERAL CONTRACTOR: John E. Branagh & Son, Piedmont.

MARK TWAIN JR. HIGH SCHOOL — MODESTO, STANISLAUS COUNTY. Modesto Board of Education, owner. 16 classrooms, administration, domestic science, science rooms, art, music, shower & dressing rooms, shop & toilet rooms, $559,861. ARCHITECT: Swartz & Hyberg, Fresno; frame & stucco construction, concrete floors, radiant heating. GENERAL CONTRACTOR: Harris Construction Co., Fresno.

COVINGTON ELEMENTARY SCHOOL— LOS ALTOS, SANTA CLARA COUNTY. Los Altos Elementary School District, owner. 12 classrooms, offices & toilet rooms, $168,143. ARCHITECT: Lawrence W. Gentry, Los Altos; frame & stucco construction, concrete floors, radiant heating. GENERAL CONTRACTOR: N. A. Lamb, Campbell.

16 RESIDENCES —REDWOOD CITY, SAN MATEO COUNTY. Gus Moeller & Sons, owner, $12,500 each. ARCHITECT: C. O. Clausen, San Francisco; frame construction. GENERAL CONTRACTOR: Arnesen Construction Co., San Francisco.

SWIMMING POOL —PETALUMA, SONOMA COUNTY. Petaluma Board of Education, owner, $155,010. ARCHITECT: Robert Stanton, Carmel; reinforced concrete construction. GENERAL CONTRACTOR: Wm. D. Rapp, Santa Rosa.

NEW CHURCH & SUNDAY SCHOOL & REMODEL & ADDITION TO PRESENT BUILDING—MENLO PARK, SAN MATEO COUNTY. Menlo Park Presbyterian Church, owner, $201,000. ARCHITECT: Leslie I. Nichols, Palo Alto; frame & stucco construction, gas & forced hot-air heating, wood shingle roof. GENERAL CONTRACTOR: Arthur Bros., San Mateo.

NEW GRAMMAR SCHOOL — ANTIOCH, CONTRA COSTA COUNTY. Live Oak Unified School District, owner. 13 classrooms, kindergarten, office & toilet rooms, $257,000. ARCHITECT: Kump & Falk, San Francisco; structural steel frame, concrete block & frame construction, asbestos shingle roof. GENERAL CONTRACTOR: Wallace D. Harkins, Oakland.

BARTLETT JUNIOR HIGH SCHOOL ADDITION — PORTERVILLE, TULARE COUNTY. Porterville Elementary School District, owner. 5 classrooms & toilet rooms, $71,213. ARCHITECT: Ernest L. McCoy, Bakersfield; frame & stucco construction. GENERAL CONTRACTOR: Ralph Utter, Tulare.

STORE BUILDING — SAN JOSE, SANTA CLARA COUNTY. Ida Bullick, owner, $41,250. ARCHITECT: Kress & Gibson, San Jose. 1 story, reinforced concrete & cement block & frame. GENERAL CONTRACTOR: Geo. J. Lauer, San Jose.

Y. M. C. A. BUILDING ADDITON FRESNO, FRESNO COUNTY. Fresno Y. M. C. A., owner; swimming pool locker room & game room, $142,650. ARCHITECT: H. Rafael Lake & Elso B. Diluck, Fresno; reinforced concrete & brick construction. GENERAL CONTRACTOR: Raymond Construction Company, Fresno.

APARTMENT BUILDING — SAN FRANCISCO. Louis Epp, owner, $85,000. ARCHITECT: H. C. Bauman, San Francisco. 3 story, frame construction. GENERAL CONTRACTOR: Biltwell Construction Co., San Francisco.

ARMORY - EXHIBIT BUILDING — AUBURN, PLACER COUNTY. State of California, owner, $114,435. ARCHITECT: Raymond R. Franceschi, Sacramento; reinforced concrete & structural steel frame, 15,000 sq. ft. GENERAL CONTRACTOR: G. S. Herrington, Auburn.

RESIDENCE — ORINDA, CONTRA COSTA COUNTY. Mr. Traynor, owner. 8 rooms, 3 baths. ARCHITECT: Ray F. Keefer, Oakland. GENERAL CONTRACTOR: Theo A. Martinson, Oakland.

BRANCIFORTE JR. HIGH SCHOOL—SANTA CRUZ, SANTA CRUZ COUNTY. Santa Cruz Board of Education, owner. 16 classrooms, gymnasium, arts room, library, multi-use room, 2 shop buildings, administration, toilet rooms, $551,458. ARCHITECT: Robt. Stanton, Carmel; frame & stucco construction. GENERAL CONTRACTOR: Nomellini Construction Co., Stockton.

GRAMMAR SCHOOL - STRATFORD, KINGS COUNTY, Stratford Union Elementary School District, owner. 3 classrooms, kindergarten, office, multi-purpose building, $169,209. ARCHITECT: David H. Horn & Marshall Mortland, Fresno; frame & stucco construction. GENERAL CONTRACTOR: Oppenheim & King, Fresno.

3 DRIVE-IN THEATRES — DELANO, SELMA & SHAFTER, FRESNO & KERN COUNTIES. Valley Drive-In Theatre Co., owner, $160,000. ARCHITECT: Vincent G. Rane, San Francisco. GENERAL CONTRACTOR: Trewhitt, Shields & Fisher, Fresno.

WAREHOUSE & OFFICE — BERKELEY, ALAMEDA COUNTY. Maxwell Reid, owner, $50,000. STRUCTURAL ENGINEER: R. H. Cooley, Oakland; 1 story, reinforced concrete construction. GENERAL CONTRACTOR: John J. Moore, Oakland.

RESIDENCE — HAYWARD, ALAMEDA COUNTY. Dr. Feldman, owner, $48,034. ARCHITECT: Anderson & Simonds, Oakland; frame & stucco construction. GENERAL CONTRACTOR: D. Ross McClennan, Hayward.

STILES HALL — BERKELEY, ALAMEDA COUNTY. University U.M.C.A., owner, $90,000. ARCHITECT: Miller & Warnecke, Oakland; 2 story, 6,000 sq. ft. reinforced concrete & frame. GENERAL CONTRACTOR: Mark Bristol, Oakland.

STORE BUILDNG RED BLUFF, TEHAMA COUNTY. Austin Morris, owner, $100,000. ARCHITECT: A. J. Horstman, San Francisco; 1 story & basement & mezzanine, 7,500 sq. ft., reinforced concrete & frame construction. GENERAL CONTRACTOR: Cahill Construction Co.

VERDE GRAMMAR SCHOOL SAN PABLO, CONTRA COSTA COUNTY. San Pablo Elementary School District, owner. 9 classrooms, kinderaarten, office & toilet rooms, $169,600. ARCHITECT: Dragon, Schmidts & Hardman. Berkeley; 1 story, frame & stucco & brick veneer. GENERAL CONTRACTOR: Marvin E. Collins, Richmond.

RESIDENCE — BERKELEY, ALAMEDA COUNTY. Mr. Prinale, owner. 8 rooms and baths, $43,000. ARCHITECT: J. K. Ballantine, Berkeley; 2 story, frame & brick veneer, shake roof. GENERAL CONTRACTOR: Harold L. Paige, Oakland.

AIRPORT ADM NISTRATION BUILDING — CRESCENT CITY, DEL NORTE COUNTY. County of Del Norte, owners, $32,482. ARCHTECT: Martin A. Sheldon, San Francisco, 1 story, 30 x 70, concrete block & frame construction. GENERAL CONTRACTOR: Osborn & Wheelon Construction Co.

FURNITURE STORE — LOS GATOS, SANTA CLARA COUNTY. Mr. Comtro, owner, $32,000. ARCHITECT: Lynn Duckering, Santa Cruz; 1 story 80x100, concrete block & frame construction. GENERAL CONTRACTOR: T. H. Rosewall, Wotsonville.

ARMORY & EXHIBIT BUILDING CHICO, BUTTE COUNTY. State of California, owner, $135,000. ARCHITECT: Raymond R. Franceschi, Sacramento; reinforced concrete & rigid structural steel bems, steel sash, composition roofina, approximately 20,000 sq. ft. GENERAL CONTRACTOR: United Construction Co., Sacramento.

WAREHOUSE BUILDING — EMERYVILLE, ALAMEDA COUNTY. Maxwell Reid, owner, $75,000. STRUCTURAL ENGINEER: R. H. Cooley, Oakland; 1 story, concrete block construction. GENERAL CONTRACTOR: John J. Moore Co., Oakland.

BIBLE COLLEGE BUILDING — SAN JOSE, SANTA CLARA COUNTY. San Jose Bible College, owner; classrooms, $42,500. ENGINEER: Corville P. Shier, San Jose; 1 story, frame & stucco construction. GENERAL CONTRACTOR: Sam E. Barth, San Jose.

RESIDENCE—KENTFIELD, MARIN COUNTY. P. L. Fahrney, owner, $51,000. ARCHITECT: Thos. D. Church, San Francisco. GENERAL CONTRACTOR: Nicolaisen Bros., Fairfax.

RECREATION BUILDING BERKELEY, ALAMEDA COUNTY. City of Berkeley, owner; gymnasium & club rooms, $54,276. ARCHITECT: Clayton Van Wagner, Oakland; 1 story, 100x112, frame construction. GENERAL CONTRACTOR: A. F. Stewart, Berkeley.

SUNDAY SCHOOL BUILDING MODESTO, STANISLAUS COUNTY. 1st Presbyterian Church, owner, $29,963. ARCHITECT: G. N. Hilburn, Modesto; 2 story, reinforced concrete & frame construction. GENERAL CONTRACTOR: Jesse E. Wagoner, Modesto.

2 STORE & APARTMENT BUILDINGS SAN FRANCISCO. Robbin E. Meyer & Son, owner, $136,000. ARCHITECT: H. C. Boumann, San Francisco.

DE SABLA APARTMENT BUILDING —SAN MATEO, SAN MATEO COUNTY. De Sabla Apartment Corp., owner. 140, 1 & 2 room apartments, $1,000,000. ARCHITECT: Angus McSweeney, San Francisco; 11 story & basement, garage, reinforced concrete construction, all metal kitchens, electric stoves & refrigerators, high speed elevators. GENERAL CONTRACTOR: Barrett & Hilp, San Francisco.

COLD STORAGE BUILDING MODESTO, STANISLAUS COUNTY. Modesto Refrigeration Company, owner, $146,537. ARCHITECT: G. N. Hilburn, Modesto; 1 story, 128x263, reinforced concrete construction. GENERAL CONTRACTOR: Barrett & Hilp, San Francisco.

CHURCH & SUNDAY SCHOOL - - SANTA ROSA, SONOMA COUNTY. First Presbyterian Church, Santa Rosa, $142,667. ARCHITECT: C. A. Caulkins, Santa Rosa; frame & stucco construction shake roof. GENERAL CONTRACTOR: D. L. Faull, Santa Rosa.

NEW GRAMMAR SCHOOL KLAMATH, CALIFORNIA. Klomath Union Elementary School District, owner, $134,995. ARCHITECT: R. J. Keeney, Medford; frame construction. GENERAL CONTRACTOR: Johnson & Son, Eureka.

GRAMMAR SCHOOL ADDITION BIOLA, FRESNO COUNTY. Biola Elementary School District, owner. 2 classrooms, $34,800. ARCHITECT: W. D. Coates & M. J. Metz, Fresno. GENERAL CONTRACTOR: Lewis C. Nelson & Son, Selma.

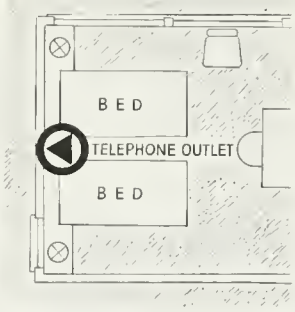
OFFICE UILDING REMODEL — SAN FRANCISCO. Pacific States Sovings & Loan Company, owner; from hotel building, $100,000. ARCHITECT: Gardner A. Dailey, San Francisco; 6 story, interior & exterior remodel, new elevator. GENERAL CONTRACTOR: Jacks & Irvine, San Francisco.

OFFICE & ELECTRIC SHOP BUILDING — SAN FRANCISCO. Abbett Electric Corp., owner, $51,718. STRUCTURAL ENGINEER: Ellison & King, San Francisco; 2 story, 57x105, reinforced concrete, wood & structural steel beams, wood roof, steel sash, heating & paving. GENERAL CONTRACTOR: Barrett & Hilp, San Francisco.

CHURCH & SUNDAY SCHOOL — VISALIA, TULARE. Methodist Church, owner, $90,000. ARCHITECT: John B. Anthony, Oakland; brick & frame construction. GENERAL CONTRACTOR: Trewhitt, Shields & Fisher, Fresno.

MARKET BUILDING — COLUSA, COLUSA COUNTY. Purity Stores Dtd., owner, $45,000. STRUCTURAL ENGINEER: H. M. Engle, San Francisco; 1 story, 50x120, reinforced construction. GENERAL CONTRACTOR: Don A. Younger, San Francisco.

All homes – large or small – need extra outlets, concealed wiring



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IN THE NEWS

MARIN COUNTY PLANS MEMORIAL HOSPITAL

The Marin County Hospital District has been formed for the purpose of constructing a 100-bed memorial hospital at Greenbrae, near San Rafael (California).

Architect Robert Stanton of Carmel has been selected to draw the plans for the district, which estimates the hospital will cost in the neighborhood of $2,076,000 when completed.

HIGH SCHOOL SWIMMING POOL

The Petaluma Board of Education has authorized the construction of a new swimming pool in conjunction with the Petaluma high school

NEW APARTMENT BUILDING

The Brooks-Manor Company of Fresno (California) have announced the construction of ten apartment buildings comprising forty apartments at an estimated cost of $400,000.

Of two-story frame and stucco construction the buildings are to be erected at the corner of Brooks and McKinley avenues in Fresno.

Architect H. C. Baumann of San Francisco is the architect on the project.

NEW JUNIOR HIGH SCHOOL

The Richmond (California) Union High School District has announced the completion of plans for the construction of a new 46-classroom high school building on San Pablo Road to be known as the Walter T. Helms, Jr. High School.

The building will also contain administration facilities, laboratories, domestic science, library, study hall, gymnasium, cafeteria, and shops. It will be of two story, reinforced concrete construction, and will cost approximately $1,596,700, according to the architectural firm of Dragon, Schmidts & Hardman of Berkeley.

STATE SCHOOL FUNDS ALLOCATED

The State of California has approved an allocation of $70,166 for the construction of a new grammar school building at Janesville, Lassen county, according to a recent announcement by the Janesville Elementary School District.

STATE ALLOCATES FUNDS FOR NEW GRAMMAR SCHOOL

Funds have been allocated by the State of California for the construction of a new grammar school at Cutten, near Eureka (California), according to an announcement by the Cutten Elementary School District.

Some $120,302 will be used for the construction.

RESEARCH FOUNDATION FOR CLAY PRODUCTS

"More efficient and economical use of brick and tile construction" will be the aim of a new million and a quarter dollar research program inaugurated by the Structural Clay Products Foundation, according to Robert B. Taylor, director.

Designed to improve construction techniques, using present forms of brick and tile, the program calls for a long range development of new clay products for construction, as well as a thorough study of new fields which may open additional uses for clay products.

The Foundation has been recently formed by brick and tile manufacturers in the United States and Canada and maintains administrative offices in Washington, D. C.

APPOINTED MANAGER OAKLAND OFFICE

Frank G. Teakle has been appointed manager of the Oakland branch office of the E. K. Wood Company, according to a recent announcement by Company officials.

SCHOOL BOND ELECTION SCHEDULED MARCH 2nd

Voters of the Ceres High School District voted March 2nd on the issuance of $300,000 in school bonds for the construction of an addition to the Ceres High School.

Proposed construction includes classrooms, administration offices, multi-purpose room, library, shop and agricultural shop, according to Russell G. DeLappe, Architect, of Berkeley.

TURLOCK NEWSPAPER TO HAVE NEW HOME

Lowell Jessen, publisher of the Turlock Daily Journal, is building a new building in Turlock to house the printing and publishing of the daily newspaper, according to Russell G. DeLappe, Berkeley, Architect.

The new building will be of one story, reinforced concrete with some structural steel construction and will cost approximately $50,000.

HOUSING BOOMS NEAR HAYWARD

The housing business has taken a brisk spurt near Hayward (California) with three large home building firms starting new construction projects.

Stanley M. Davis, San Leandro, will construct 57 residences in Castro Valley at an estimated cost of $6,000 each.

Ashland Homes, Inc. of San Leandro, will build 78 new homes in San Leandro at a cost of $6,500 each.

The building firm of Tarman & Bechtel of Oakland, will build 126 new frame houses in Hayward at a cost of $6,000 each.

HIGH SCHOOL BONDS VOTED

The Ferndale Union High School District (California) has announced the approval of a $215,000 Bond issue by the voters of the district. Funds are to be used in the construction of a classroom building addition to the Ferndale High School.

NEW APARTMENT MARIN COUNTY

The immediate construction of 11-Apartment buildings containing sixty apartments near Larkspur (California) at a cost of $339,350 has been announced by the Schultz Company.

The buildings will be 2-story, frame and stucco construction.

NEW HOUSES FOR SACRAMENTO

Building permits have been issued to Manuel Jacinto of Sacramento for the construction of 118 new houses in the City of Sacramento.

Seventy-seven of the houses will be built at a cost of $5,000 each and 41 homes will be built at a cost of $4,000 each.

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AUXILIARY SERVICES AND ADMINISTRATION BUILDING

The Childrens Hospital in San Francisco will construct an auxillary service and administration building, including a surgery and delivery room, at a cost of $2,130,000, according to Architects Skidmore, Owings & Merrill of San Francisco.

Of four story and basement design, the building will be of reinforced concrete and structural steel construction with steel windows, two elevators and Terrazzo Floors.

ARCHITECT SELECTED

Architect C. J. Ryland of Monterey (California) has been selected by the Santa Clara County Board of Supervisors to design plans for a new Swine Barn at the Santa Clara County Fairgrounds at San Jose.

The structure will be 240 ft. by 340 ft. of frame construction.

SCHOOL BIDS REJECTED

The Berkeley Board of Education recently rejected a bid of $600,000 for the construction of the new Le Conte School, comprising 14-classrooms, 2-kindergartens, offices, cafeteria, auditorium, and toilet rooms.

According to architects Dragon, Schmidts & Hardman of Berkeley, new bids will be requested on the project.

RECENT BOND ELECTIONS

A number of recent bond elections have been held for the purpose of raising funds for school construction and additions. Included are:

Hayward, Grammar School addition, $550,000.

San Lorenzo, new Grammar School, $400,000.

Monterey, Library building, $350,000.

Mt. Eden, Grammar School, $100,000.

Hayward, additions to the Hayward High School and the San Lorenzo High School, $1,500,000.

Mt. View, new Grammar School, $210,000.

NEW RESIDENTIAL CONSTRUCTION

Two substantial home construction projects are scheduled for immediate development in San Mateo (California) according to recent announcement.

The David D. Bohannon organization will construct 240 new residences in the Hillsdale area at an estimated cost of $10,000 each, while the San Mateo Investment Company will construct 49 new homes in the San Mateo Knolls district at a cost of $8,000 each.

FULLER COMPANY BUYS SEATTLE PAINT FIRM

The Sound Paint Manufacturing Company of Seattle, Washington, has been bought by the W. P. Fuller & Company, according to a recent announcement by A. H. Brawner, president of the Fuller Company.

The firm will continue to serve the industrial field and will specialize in the production of industrial finishes.

Wm. F. Grubb, founder and owner of the company until its sale to Fuller, will remain as manager of the property.

RESIDENTIAL CONSTRUCTION SOUTHERN ALAMEDA COUNTY

The Sunnybilt Homes Corporation of San Lorenzo (California) have announced the start of 39 residences in San Lorenzo Village. Of frame and stucco construction the new houses will cost $7,500 each.

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COVER PICTURE:

Church Building for the San Diego Stake and North Park Ward Church of Jesus Christ of Latter Day Saints, Hamilton and Lincoln Streets in San Diego, California.

Architectural design and arrangement was by Louis A. Thomas, A.I.A., Architect of Los Angeles. See Page 18 for story.

Photos by
Paul Robert
Valley Studios

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. EDITORIAL NOTES .

WHO'S BUILDING WHAT

It is interesting to learn that the great wave of home building which has swept the country since the close of World War II is not limited to any particular group of people, but includes a well diversity of income brackets.

Cantrary to some belief, the majority of home purchases made during the past year were by middle income families

The latest study shows that four-fifths of all FHA financed houses represented families with monthly incomes ranging from $200 to $500. A further breakdown of these figures discloses that 80.9% represent family incomes of $200 to $500; 62.8% have incomes of $200 to $400; 50.8% have incomes of $200 to $350; and 30.3% have incomes from $200 to $300 per month.

Everything else being equal, every good American citizen has a longing to "own a piece" of these United States, whether his monthly income be unpredicted, $200 or $2000.

* * *

The destiny of America lies in the opportunity for her sons and daughters to work and create a better democracy which gives all an opportunity to work out their destiny.

* * *

A PEEK THROUGH THE IRON CURTAIN SHOWS

According to a statement of the Central Statistical Administration of the Council of Ministries, United Nations Economic Commission for Europe, Russian housing production during the period from the end of World War II through 1948, is anything but an attractive picture.

The USSR restored or built 545,700,000 sq. ft. of housing, or the equivalent of 561,000 units of the size of the average American new home. In the same period the United States built two and one-half million new houses, or nearly five times the Russian production.

"In relation to population," according to the report, "the Russian production was the equivalent of 2.7 American units per 1,000 population for the period, while American production was 17.2 houses per 1,000 population."

The report goes on to say, "It is generally recognized from descriptions reaching this country that the typical Russian unit is not much more than one-third the size of the American unit. The USSR sanitary housing norm calls for 88 sq. ft. per person, or 352 sq. ft. for a family of four. Also, they are not comparable to the American home in respect to heating, plumbing and kitchen equipment, or comfort and livability."

Living space is generally at a premium. Workers live in barracks with whole families living in one room, and in some instances more than one family to a room; one common kitchen with only rudimentary equipment used by groups of families; common privies serving many families; and in general "the housing accommodations of the average Russian families are so substandard that they are inconceivable to people in the United States."

Whenever it is possible to find a peek-hole in the "iron curtain" the things seen and reported are so contrary to the accepted standards of American living, that it is hard to believe any American would give a second thought to Russian standards as advocated by many so-called "liberals."

* * *

EVERY citizen has a responsibility. He must recognize it and do his duty.

* * *

PUBLIC HOUSING

Almost everyone knows that the National Association of Home Builders is the official organization of the home building industry throughout the nation, and therefore any position they might take on the matter of public housing could be biased in favor of the home builders.

The group have, however, offered a suggestion to advocates of Public Housing that contains a considerable amount of merit. They propose that adoption of any public housing project be submitted to the public in the city or area involved for approval.

Such a plan would give the people of any community the right to determine whether public housing was to be established in their city, and since the public will have to pay the rent bill for those housed in public housing projects, the public should be given an opportunity to accept or reject the additional tax burden.

There are good arguments for and against public housing, but there is not one single good democratic argument against the policy of giving the people an opportunity to determine whether they should or should not have to pay substantial amounts of money for governmental fostered projects which accrue to the benefit of a minority of the public.

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NEWS AND COMMENT ON ART

MILLS COLLEGE ART GALLERY

Sidney M. Kaplan, director of the Mills College Art Gallery in Oakland, has announced an exhibition of Drawings and Paintings by Rico Lebrun portraying the "Crucilixion Cycle" will be shown during April.

Also scheduled for April is an exhibition of Prints and Drawings by Mexican Artists loaned by the San Francisco Museum of Art; and "New Direction in Itaglio," an exciting printing process developed at the Walker Art Gallery in Minneapolis, will be shown.

LOUVRE AND TATE GALLERY EXCHANGE

Rene Huyghe, curator of paintings at the Louvre in Paris, and J. Rothenstein, director of London's Tate Gallery, are organizing a series of loan exchanges. The first paintings to be shown in London under the new arrangement will be a landscape by Corot and paintings by Chasseriau, while at the Louvre canvases by Turner, who is well represented in Continental museums, will be seen.

SAN FRANCISCO MUSEUM OF ART

The San Francisco Museum of Art, War Memorial Building, Civic Center, has announced the following Exhibitions and events for the month of April:

EXHIBITIONS: Paris Exhibition Posters; New Paintings by artists of the Bay Region, Barbara Stevenson and Tom Valiant, Roger Bolomey, and Margaret Peterson; Mendocino County Photographs by Minor White; Origins of Shape in Contemporary Art, Keith Monroe; Photographs by Bob Hollingsworth and Philip Hude; Ceramics by Eileen Reynolds, Hal Riegger and Antonio Prieto; Fabrics by Constance Tydeman, Maxwell Hawker and Hal Painter; Modern American Painting—Movements and Countermovements, a Museum of Modern Art exhibition; Light—The 20th Century Stage Medium, stage sets by Arch Lauterer; Watercolors by Michael Czaja; Memorial Exhibition—watercolors by Stanley Wood, and Contemporary Chinese Woodblock Prints.

EVENTS: The spring lecture series will be resumed with discussions on Sunday afternoons, Wednesday evening, and one Monday afternoon during April. All of the talks will be related to the Museum of Modern Art Exhibition, "Modern American Painting: Movement and Countermovements" with speakers including Grace L. McCann Morley, Barbara Fitzwilliams, Robert M. Church, and Lew Tyrrell.

Four lecture demonstrations will be conducted by Helen Van Cleave Park, Wednesday afternoons during April, on the subject "Flower Costumes for the Home."

Famous Film Series, each Tuesday evening; Gallery Tours each Tuesday and Sunday afternoons; Know Your World Film Series, and Children's Saturday morning art classes, will also be presented during the month.

FRENCH ARTIST EXHIBITS IN NEW YORK

A comprehensive Renoir Loan Exhibit for the benefit of the New York Infirmary will be featured at the Wildenstein Gallery in New York during April. Several of the canvases are from the private collections in Paris, France, and have not been previously exhibited in New York.

M. H. DE YOUNG MEMORIAL MUSEUM

The M. H. de Young Memorial Museum in Golden Gate Park, has announced the following program of exhibitions and events for the month of April:

EXHIBITIONS: A special event of the San Francisco Art Association—Open Exhibition, includes works in a variety of media—oil, watercolor, sculpture and graphic; Early Chinese Bronzes and Jades, lent by Arthur Rothwell and Jan Kleijkamp; Pre-Columbian Textiles, 100-1400 A.D., from the collection of Lionel H. Pries and circulated by the Mills College Art Gallery; Painting by Irma Engel; Laces from the 16th to the 19th Century collection of Mrs. Hans Benedict, and Queen Mary's Carpet (this carpet took eight years to make and contains a million stitches).

A Gallery Talk will be given by Dr. Elizabeth Moses on April 18th on the subject "Peruvian Textiles."

* * *

In the San Francisco Art Association Open Exhibition, the following awards have been made: Painting, Lee Mullican; Sculpture, Bob Winston; Watercolor, Ward Lockwood; Graphic Arts, George Stillman; and for works in any medium: James Weeks, Harry Baker, Charles Ward and Katherine Westphal.

CITY OF PARIS

The City of Paris, San Francisco, has scheduled the following exhibits for the month of April:

In the Rotunda Gallery, on the 4th floor, an Exhibition of Oils by Muriel B. Bacon, Watercolors by David Scott, and Oils by Louis Siegriest.

The Pictures of the Month exhibition will include a group of Watercolors by Louise Hilbert, Joseph Knowles, L. C. Le Goullen, Helen Scheppens, and Isabelle Schrock.

The 9th Annual Pacific Coast Ceramic Exhibition will be shown starting May 9th, in the Rotunda Gallery.

* * *

An exhibition of Mosaics by Louisa Jenkins; Watercolors by Theodore Polos, and Oils by Peggy Strong was shown during the early part of April. Showing also during the early part of the month was a group of Watercolors by Ruth Armer and Dorr Bothwell.

PORTLAND ART MUSEUM

The Portland Art Museum, West Park and Madison streets, was the center for a recent meeting of some 54 organizations interested in the exhibition, teaching, and appreciation of the Fine Arts. According to Thomas C. Colt, Jr., director of the Portland Art Museum, the purpose of the conference was to establish an Oregon Art Alliance to coordinate and develop Art in Oregon.

* * *

An Exhibition of the Work of the Artists of Oregon will open the latter part of April under the supervision of a special Committee of Selection comprising Donald Bear, director Santa Barbara Museum of Art; Mark Sponenburgh, Sculptor, University of Oregon; and Mitchell Jamieson, Painter of Seattle.

* * * *

With the opening of the Pre-Columbian Gallery, no closed doors remain in the Museum galleries.

Approximately twenty paintings have been chosen from the Museum Collection to be exhibited under the title French Landscape Painting Before Impressionism. Among the paintings are examples of the work of Bondin, Corot, Courbet, Michel, Monticelli, and Millet.

* * *

The April exhibition of Oregon Art in the Oregon Artists' Gallery is composed of paintings by Lilyann Veatch. In the Print Cabinet a collection is being shown under the provocative title "Artists Anonymous," in that the visit is unaware of the artist, labels rather than names identify the work.

A display of children's work from the Art classes of the Portland Public Schools opens May 1st, with Miss Ruth Halvorsen, Art Supervisor, selecting and arranging the exhibition.

THE 14TH CERAMIC NATIONAL

The 14th Ceramic National, which was previewed and opened to the public at the Syracuse Museum of Fine Arts, Syracuse, New York, last fall, is scheduled to be shown at the San Diego Fine Arts Gallery from June 23 to July 16th.

It will open at the Los Angeles County Art Institute on July 26 and remain until the 16th of August, and on August 31st it will open in the San Francisco Museum of Art where it will remain until September 24, and from San Francisco the exhibit will go to Des Moines, Iowa.

CALIFORNIA PALACE OF THE LEGION OF HONOR

The California Palace of the Legion of Honor, Lincoln Park in San Francisco, has announced an exhibition of the work of six British Contemporay Artists for May. Paintings, sculptures and drawings by the following artists will be included: John Piper, Henry Moore, Graham Sutherland, Barbara Hepworth, Ben Nicholson, and John Tunnard.

The exhibition, lent by Durlacher Brothers and the Buchholz Gallery was first presented earlier this year at the Cincinnati Art Museum, augmented by several loans from Los Angeles private collections, it was then shown at the Frank Perls Gallery of Beverly Hills from whom it has been obtained for the San Francisco exhibition.

SEATTLE ART MUSEUM

As an outgrowth of the recent lecture series on "The Contemporary Home," the Guild is sponsoring an architectural exhibit and tea during April, which will include a tour of six open-houses in Broadmoor and Washington Park and a tea at the home of Mrs. Raymond Allen.

The contemporary homes were designed by leading architects and recently completed.

PAINTING BY U-C MAN BEING EXHIBITED IN SAN FRANCISCO

An exhibition of painting by E. Michael Czja, lecturer in architecture on the Berkeley campus of the University of California is being shown at the San Francisco Museum of Art during April.

The paintings, done in casein and tempura during the past several years, have been shown in Minneapolis, Denver, San Diego, Santa Barbara, Sacramento and the Palace of the Legion of Honor in San Francisco.

ARCHITECTURAL EXHIBIT AT ILLINOIS

An exhibit on the work of Auguste Perret, modern French architect, originally organized by the University of Illinois, will go on display at the Cultural Division the latter part of April. It is currently being shown at the Architectural Art Center in Boston.

HOW CAN ARCHITECTS Best Make PRELIMINARY ESTIMATES

By J. P. H. PERRY, Consultant
Turner Construction Company*

How can architects best make preliminary estimates of the cost of their projects? One answer is that very generally they themselves shouldn't make any. Of course, there are some large architectural offices with great practices who over the years have acquired cost data of their own which equip them to forecast pretty reliably the probable cost of most new projects. Such offices, however, are the exception rather than the rule.

In my opinion the best way is for architects to ask the contractor whom they know best or whose judgment they value most to make the preliminary estimates. While it seems obvious, nevertheless my experience over the years indicates that either architects do not know or do not accept the fact that an estimate is only as good as the information upon which it is based. This is particularly true of preliminary estimates.

Preliminary estimates frequently are based on only cubic foot or square foot prices, or at the most, hasty takeoffs of sketchy information. If they are takeoffs they are usually only estimates of the total square foot area of floors and walls, number of plumbing fixtures, number of elevators and the heating and lighting requirements and similar principal characteristics of the building.

Such estimates, even on what seem to be parallel or even twin buildings, can vary greatly. Within the past month I have had sharp discussions with an architect concerning an apartment building in another city which my company decided could not be built for less than $1.15 per cubic foot, and yet what seemed to be similar buildings in New York and Philadelphia were costing from 70c a cubic foot up to at the most $1.00.

Note that I said "what seemed to be similar buildings." It may interest you if I quote to you from a memorandum which our chief estimating engineer, Mr. C. F. Rosenburgh, prepared for me on these two projects:

"The $1.15 per cubic foot apartment varies from the 80c 'apparently similar building' in the following respects: For simplicity of description we will call the more expensive apartment Building A, and the other Building B.

Building "A" averages 2½ rooms per apartment against 3½ rooms for "B." The average story height is 9.3' against 10.1' on "B." This results in "A" having a 10% denser cube than "B." Some of the major subcontracts vary, as herein below shown. These items alone account for 22.3c per cubic foot.

	Bldg. A.	Bldg. B
Electrical Work	5.8c/cu. ft.	3.2c/cu. ft.
Heating and Plumbing	18.1c/cu. ft.	11.6c/cu. ft.
Kitchen Equipment	5.9c/cu. ft.	3.4c/cu. ft.
Tiles	2.9c/cu. ft.	none
Plastering	14.1c/cu. ft.	9.5c/cu. ft.
Elevators	6.4c/cu. ft.	3.2c/cu. ft.
	53.2c/cu. ft.	30.9c/cu. ft.

Apartment "A," designed with reinforced concrete skelton, 19 stories high, is more expensive than the structural steel and bar joist design of Apartment "B," 10 stories high. The denser cube of "A" compared to 'B" would also effect proportionately items such as doors, hardware, partitions, painting.

Apartment "B" has one lineal foot of exterior wall for each 21.4 square feet of floor, whereas on Apartment "A" for each lineal foot of wall there is 15.8 square feet of floor. In other words, Apartment "A" has 35% more wall per square foot of floor than "B." Furthermore, Apartment "B" is on soil bearing footings, whereas Apartment "A" is on 50' wooden piles. This accounts for about 20c per square foot higher cost of "A" over "B."

This memorandum led me to ask Mr. Rosenburgh to prepare what might be called an estimator's punch list of the variables we frequently meet up with affecting the cost of a building. The preparation of preliminary estimates of cost of buildings

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NOTE: This address by Mr. J. P. H. Perry, Consultant, Turner Construction Company, was delivered at the regular March 1950 meeting of the New York Chapter, American Institute of Architects, held at the Architectural League in New York City.—EDITOR.

requires giving consideration to at least 18 factors which effect the cost, as follows:

1. Use or type—that is, theatre, factory, office building, etc.
2. Location.
3. Site condition—vacant. If not, what structures are on it.
4. Foundation conditions—piles, bearing value, rock, etc.
5. Dimensions of the building.
6. Number of stories and floor loads.
7. Type of construction — fireproof, steel or concrete.
8. Story heights and column spacing.
9. Exterior Walls—stone or brick, etc.
10. Interior finishes—plastered, tile, etc.
11. Plumbing--for how many people.
12. Electrical requirements—type of fixtures.
13. Heating, ventilating, air conditioning requirements.
14. Sprinklers.
15. Elevators—number and characteristics.
16. When and how fast to be built.
17. Basic or special equipment—tenant changes, laboratories, acoustical treatment, etc.
18. Site development—work outside of building lines.

The foregoing 18 items will raise many questions of detail depending on the type of structure. Pertinent information for a factory obviously will not apply to a theatre or hotel. It may be interesting to go a little further into the detail that a contractor must have before he can do a creditable job, even in preliminary estimates.

Take Item 3 on the above list—site condition. If there are buildings to be wrecked the estimator should have an informing description of them. He should also have some idea of the contour of the existing ground. If there are adjoining structures he should know whether they have to be underpinned or shored.

Take Item 4—foundation conditions. Reliable information should be given as to the sub-soil conditions, that is, what the bearing value of the ground is or length of piles required; the elevation of ground water; if there is rock, where it is.

Item 5—dimensions of the building. The shape of the building has great influence on its cost, particularly the relationship of wall to floor.

Item 6—number of stories and floor loads. With this data should be given information as to overloads, such as for monorails and cranes, together with the relation of the first floor to finished grade.

Item 7—whether the building is fireproofed, semi-fireproofed, or mill construction is obviously important. Is the structure to be designed for future stories; are there to be monitors or skylights required and the type of roofing and roof insulation are often factors in cost.

Item 8 — story heights and column spacing should include information as to whether the building is to be designed for future stories. Varying story heights in the height of a building often increases cost materially.

Item 9— exterior walls. If there is anything special about the sash or if there are to be, for example, stainless steel facia plates, special glazing or furring, or in the basement waterproofing or dampproofing, such data should be made available.

Item 10—interior finishes. Costs can vary greatly with the type of floor finish, wall finish—plastered or Hauserman type of surface, ceiling finishes, whether acoustically treated, type of interior partitions; requirements as to doors and trim and painting.

Item 12—Electrical requirements—particularly foot candles of light required; type of fixtures, particularly varying types of fluorescent lighting; power requirements and any special requirements such as hospitals, laboratories and cafeterias should be noted.

Item 13—There is probably no item in modern building construction which is in a greater state of flux than heating, ventilating and air conditioning requirements. Each of these can materially affect the cost, and their characteristics should be tied down as accurately as possible.

Item 16—When and how fast a building is to be built can affect the cost of many structures as much as 10%.

Item 17—Is the preliminary estimate to be for a basic building only, if we are talking about an office building, for example. In other words, should the estimator include interior partitions only for elevators, stairs and toilet rooms and allow nothing for the sub-dividing partitions which the tenants may require. If the building is to be specially equipped, such as a laboratory or hospital or factory, how many of the following items should he include:

Laboratory equipment
Lockers
Kitchen and cafeteria pneumatic tube systems
Conveyors
Truck lifts
Monorails and tracks
Cranes
Refrigerated space
Machine foundations, etc., etc.

Item 18 — Site development. Should fencing, landscaping, sidewalks, roads, parking areas, watchmen's facilities, recreational facilities, special fire alarm installations be included and should

(See Page 24)

NEW CONSTRUCTION TECHNIQUES

TRINITY UNIVERSITY

SAN ANTONIO, TEXAS

Contracts were awarded recently for the first of two buildings, comprising some 44,500 sq. ft. in the new-campus program of Trinity University at San Antonio, Texas.

The buildings will represent fireproof, permanent type, classroom and administration quarters, and the James Stewart & Company, Inc., construction firm of New York, will employ the Youtz-Slick lift system of construction, which is a new and revolutionary building method developed by the Institute of Inventive Research of San Antonio.

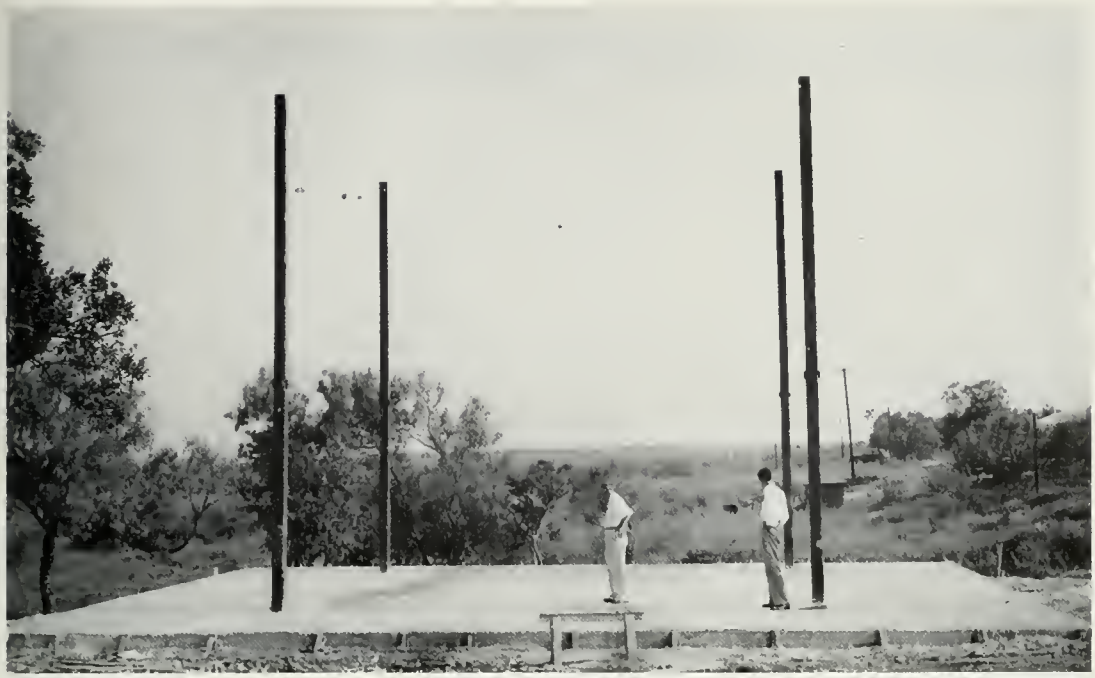
The Youtz-Slick method, named after its originators, Philip N. Youtz, widely known New York architect, and Tom Slick, San Antonio business man and rancher, who conceived the techniques independent of eath other, has been subjected to intensive research and test construction for more than two years.

Designed as an approach to better buildings at lower costs, it is fundamentally a new technique for casting floor and roof slabs without forms and raising them to permanent positions using automatic power lifting equipment. It eliminates forms for monolithic concrete work and simplifies operations generally. It consists simply and literally of "raising the roof."

Foundations are poured in place and followed by the pouring of a base slab. Columns of pipe, structural steel or concrete are then placed, anchored and grouted. The roof slab, or the second floor and roof slabs if the building is two story, is laid on the base slab which is used as a bottom form, thereby requiring only edge forms.

Concrete is then poured directly on the base slab over a separating medium and allowed to cure for at least seven days. Specially designed lifting equipment is placed on the columns and attached to the slab. The slab then is raised to its permanent position and welded to the column by means of a collar which was placed in the slab at the time of pouring.

The method is adaptable to multi-storied construction and plans and specifications for such use are in preparation.



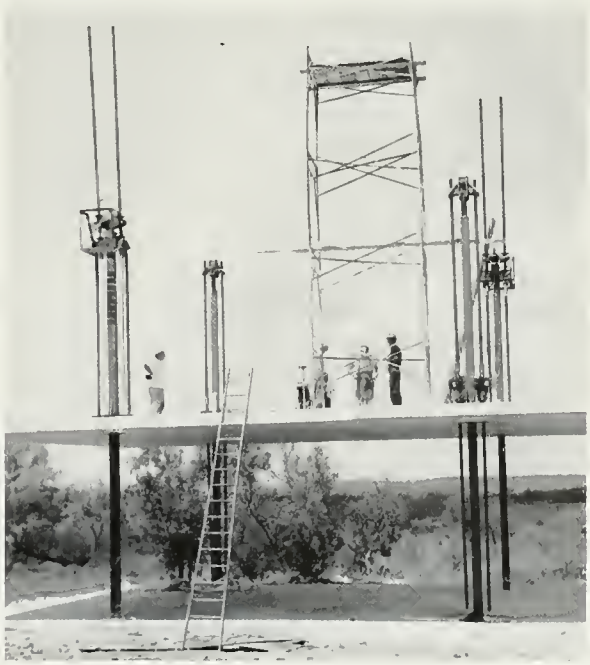
SECOND FLOOR reinforced concrete slab has been laid on top of the base slab of the experimental building being constructed by the Institute.

The classroom-administration building will be two stories, measuring 61 ft. by 384 ft., and will be built on the highest point of the 107 acre new campus. The men's dormitory will be located nearby facing the San Antonio skyline, and will be a Z shaped structure containing 32 rooms, a lounge, dining room, and kitchen. Like the academic building it will be constructed of brick and concrete blocks.

Other buildings to be built in the near future include a science and library building, a student union building, a chapel, and additional dormitories.

The Trinity associated architects are Harvey P. Smith, O'Neil Ford, and Bartlett Cooke, San Antonio. William W. Wurster, dean of architecture at the Massachusetts Institute of Technology, Cambridge, Mass., is the consulting architect; Frank T. Drought, San Antonio, is the structural and mechanical engineer, and Fred N. Severud, New York City, is the consulting engineer. Structural research for the Trinity building program has been conducted by the Southwest Research Institute, San Antonio.

The second floor concrete slab has been raised from the base slab to the desired height and is now ready to be welded into its permanent position.



THE CONNECTICUT EXPERIMENT

A REPORT BY GOVERNOR CHESTER BOWLES

Connecticut's unique Home Ownership Program moved into high gear recently as the first families to receive state mortgage loans moved into their own homes.

Governor Chester Bowles described the program as "an entirely new state program helping middle-income families to buy new homes of their own." He pointed out that the Home Ownership Program, under which Connecticut makes mortgage loans to eligible families at only one and one-half per cent interest, is conducted entirely without subsidy. Interest paid by mortgage holders pays for interest the State must pay on its notes and for all administrative expenses.

The $30,000,000 fund set up by the Connecticut General Assembly for the Program will provide mortgages on about 3,500 homes. "The houses to be bought under the Program are built by private builders, and all mortgage loans and construction loans made under the Program are initiated, processed, and serviced by state-appointed Loan Correspondents, such as banks and other accredited lending institutions designated to act as the State's agents. The Federal Housing Administration insures all first mortgages issued, and the Veterans Administration guarantees second mortgage loans made to veterans," Governor Bowles said.

"Cooperation between private enterprise, the State, and the federal government is making the Home Ownership Program go," Governor Bowles said. "This state mortgage loan program represents an entirely new idea in state housing programs, and we are proud that Connecticut is leading the way in helping families of moderate income to buy homes of their own."

"Home ownership is truly a cornerstone of our whole democratic system, and the Connecticut Home Ownership Program is making that possible for families who otherwise could not afford homes of their own. This is being accomplished without subsidy. The Program is a stimulus to building in the $7500 to $10,000 price range, both for sale under the program and to non-eligible families."

Governor Bowles also described the Connecticut Moderate Rental Housing Program, under which $65,000,000 is being lent to 34 local housing authorities for construction of approximately 6,000 moderate rental housing units for middle-income families. A total of 1447 family units now are occupied, another 1164 units are under construction, and construction bids for 1224 additional units were opened in March. In April, bid openings are scheduled for six projects with a total of 938 units; in May, 614 units; and in June, 300 units. Architecture in all projects is chosen locally to fit community needs and patterns. Projects may be sold to private owners when the housing emergency ends.

The Moderate Rental Housing Program is operated with virtually no cost to the taxpayer, as rents paid by families living in the projects are sufficient to cover interest paid by local housing authorities on state loans, maintenance of buildings and other expenses. A small .003 per cent of the entire program, for administrative expenses, comes out of the State's general fund.

"In both state housing programs" Governor Bowles said, "the low interest rate the State pays on its short term notes is the key to the low interest rate the State can charge mortgage holders and local housing authorities. These low interest rates mean monthly mortgage payments and rents far below those available to moderate income families for privately-financed building. Mortgage interest and amortization payments run $10 to $15 a month below similar mortgages available at four to five per cent interest, a saving of $3618 on an $8500 mortgage written for 25 years. Monthly shelter rents are less than half what is being obtained generally for similar new housing.

"We are providing decent, safe and sanitary housing for about 10,000 families with incomes too high to qualify them for federal subsidized housing and too low to afford good housing on the private market. This is being done through private builders, private architects, established banks and lending institutions acting as State loan agents. Both Programs are providing a great stimulus to building, even beyond the scope of our present Program, and are providing work for building and allied trades and promoting sales of furniture and other home furnishings.

"We feel that the Connecticut Home Ownership Program and the Moderate Rental Housing Program can serve as examples to the whole country as milestones in our progress toward providing good homes for all of our people," Governor Bowles said.

(See Page 43)

Far left is present Longley Porter Clinic . . . Cross-shaped building is new Teaching Hospital . . . Connecting structure is first major unit of the Medical Sciences Building . . . Far right is present Clinic Buildings.

UNIVERSITY OF CALIFORNIA MEDICAL CENTER SAN FRANCISCO

BLANCHARD and MAHER, Supervising Architects

TEACHING HOSPITAL
M. T. Pflueger, Architect

MEDICAL SCIENCES
Blanchard & Maher, Architects

Construction of major units of the new University of California Medical Center in San Francisco will include a teaching hospital and a medical sciences building, according to a recent announcement by Robert G. Sproul, University president.

The new Medical Center is to be built on the present hospital campus at Third Avenue and Parnassus and will appear as per the above artist sketch when completed.

Funds available for construction total $21,080,000. Of this, $20,015,000 has been appropriated or placed in reserve during the past nine years by the California State Legislature. In addition, one million dollars has been pledged by the U. S. Public Health Services for the quarters for the University's Cancer Research Institute, and $65,000 contributed by Mr. and Mrs. Berthold Guggenheim of San Francisco, for opthalmology research facilities.

Construction of the teaching hospital will start early in the summer, while construction of the Medical Sciences Building will start a little later, with both units expected to be ready for occupancy by the fall of 1952.

The two structures actually will be one integrated unit, so designed that the fundamental research facilities in the Medical Sciences Building will be on the same floor adjacent to the clinical facilities of the hospital.

The Medical Sciences Building will house all four schools and colleges at the Medical Center: the Medical School, College of Dentistry, College of Pharmacy, and School of Nursing.

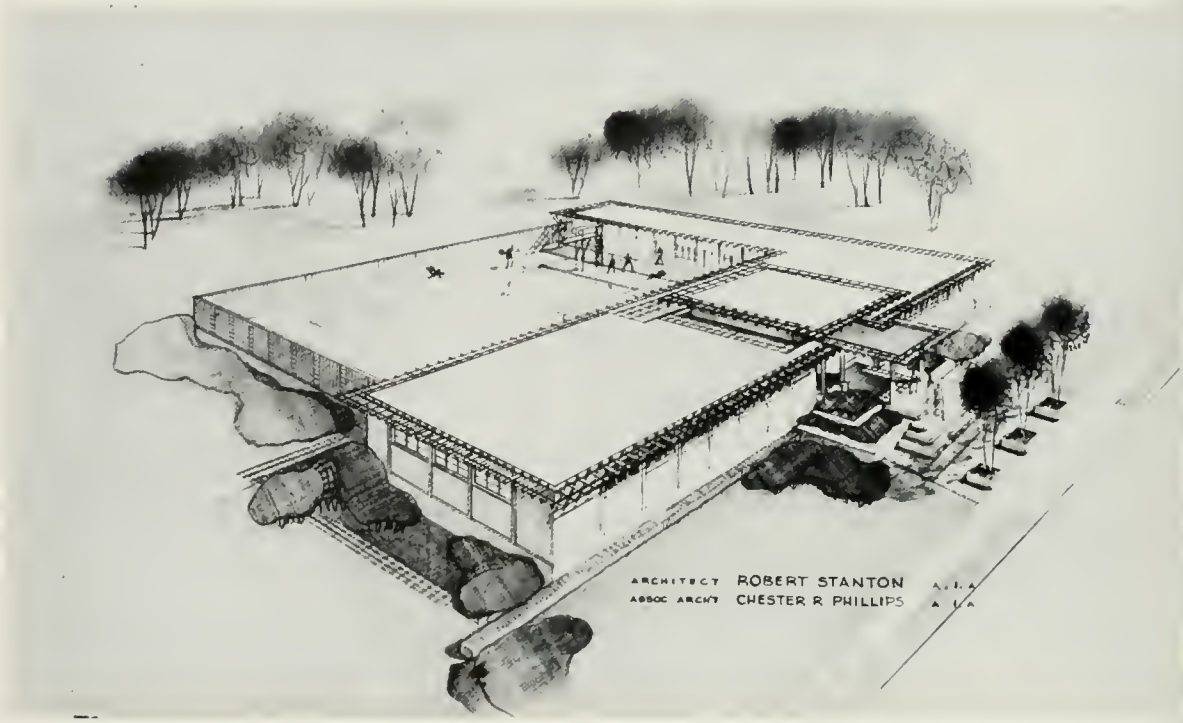


Photo by Morley Baer

COMMUNITY — SCHOOL
SWIMMING POOL
Petaluma, California

ROBERT STANTON A.I.A.
ARCHITECT

CHESTER R. PHILLIPS A.I.A.
ASSOCIATE ARCHITECT

One of the latest architectural designs by Robert Stanton, A.I.A. Architect of Carmel, California, who is widely known for his good taste and sound planning, is a Swimming Pool for the City of Petaluma, California, which was done in conjunction with Chester R. Phillips, A.I.A., Architect of Robles Del Rio.

The project is typical of Robert Stanton.

It is very unpretentious, simple and yet decidedly friendly with large planting boxes at the entrance and the pergola type eaves gives the entire building a definite character which is in keeping with its primary use—children.

Even the wood fence surrounding the building area has been given a pleasing variation without adding any additional cost, by the simple use of a combination of vertical and horizontal boards.

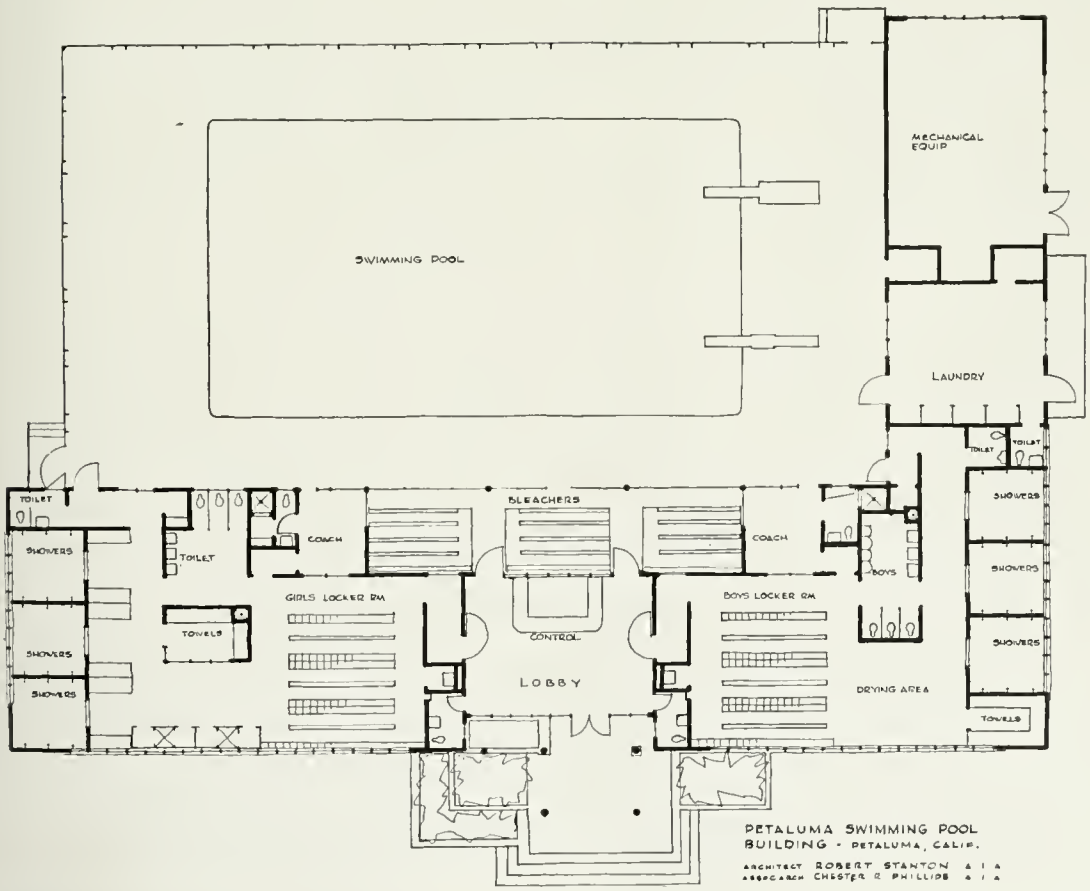
The swimming pool itself has been developed to be used for diversified recreation during the summer months, and for swimming instruction and exercise under regular supervision during the school year. The facilities provided for girls is just about the same as those for the boys—individual showers and dressing facilities are no longer considered necessary or desired.

Coaches offices are placed so that the instructors and supervisors may control the locker rooms, pool, and bleachers from one point. The spectators' bleachers, for viewing matches and exhibitions, are directly accessible through the main building lobby as well as from the pool direct. Access to public rest rooms off the lobby helps to keep the public and spectators traffic out of the locker rooms.

The swimming pool itself is seventy-five feet long by forty-two feet wide, with a ten foot side deck which widens out to twenty feet at the ends.

The laundry, cleaning equipment and mechanical equipment rooms are arranged so that they form a sheltering wing back of the spring board and high dive.

Construction is just getting under way and it is hoped that the swimming pool will be completed and available for use during the later part of the summer. In any event the entire facilities will be completed and ready for use when school reopens in the fall.



THE EFFECT OF DURATION OF LOAD ON WORKING-STRESSES FOR WOOD

**By T. K. MAY, Director of Technical Service,
West Coast Lumbermen's Association, Portland, Oregon***

The fact that wood will sustain a proportionately greater load as duration of load decreases is well-known. It has been used for many years as the basis of the provisions in design specifications for neglect of impact when the impact force is no greater than the live load and also for an increase in working-stresses for wind or earthquake forces. Introducing a refinement of this fact for other durations of load makes for economy of construction and is a modern application of the principle.

The most widely used building codes of the country, including the Uniform Building Code of the Pacific Coast Building Officials Conference, as well as many design specification standards are now providing for adjustments of wood work-stresses commensurate with the duration of load.

Though it may seem very strange, it is nevertheless economically and factually justifiable to design a permanent structure using high working-stresses based on short time loading while another, a temporary structure, may require lower working-stresses based on long-time loading. It needs no explanation to justify such a procedure economically. It remains only to present the facts that justify the working-stress levels.

The Forest Products Laboratory of the Forest Service, a part of the U. S. Department of Agriculture, has been and is the source of data for determining working-stresses for wood. They have to date made some 3,000,000 tests on wood or in relation to wood. Therefore, the data presented herein is from Forest Products Laboratory sources. It was felt that no practical purpose would be served by making an historical search for the oldest data on this subject. The oldest reference used herein refers to aircraft construction and is dated 1930 and all except the two latest references are of this era.

The efficiency of airplanes that are built of wood depend partially on the high strength of wood under short duration of load. From the document examined it was found that design of the structure of a wooden aircraft was on the basis of a 3 second duration of maximum load at the recommended elastic limit after making a reduction for variability of wood and the greater number of pieces that are below the average.[1] The result is a working-stress that structural engineers would shudder to use.

The next publication examined has this to say under the caption, "Strength as Affected by Rate and Method of Loading—Duration of Stress":-

The duration of stress or the time during which a load or force acts on a beam or other wooden member has an important bearing on the use of the timber, and on the adaptation of results of tests to the design of different kinds of structures or members. For instance, when an airplane travelling at high speed suddenly changes its course as in flattening out following a dive, wooden members may without damage be subjected for a few seconds to forces which would cause complete failure if applied for a longer time. In impact-bending tests, where the load is suddenly applied and is maintained for but a fraction of a second, a stick will resist a force more than double that required to produce failure in a standard static-bending test. On the other hand, beams under continuous loading for years, will fail at loads one-half to three-fourths as great as would be required to produce failure in the standard static bending test where the maximum load is reached in a few minutes." In conjunction with the foregoing discussion, a chart has been prepared by the Forest Products Laboratory of Madison, Wisconsin, showing a relationship of stress value to time of loading of tests from a fraction of a second to one year. The points shown on the Chart represent average values for from 5 to 10 tests and for two conditions of moisture content.

Writings, reflections and tests have continued and are continuing on the subject. A report on tests being carried out at the Forest Products Laboratory over a period of many years was published in the Engineering News Record nearly two years ago. These tests consisted of wood prisms subjected to a constant load until failure. The loads on the separate specimens were such as to cause separate stress levels. Thus, a specimen subjected

*NOTE: *This paper by T. K. May, Director of Technical Service, West Coast Lumbermen's Association of Portland, Oregon, was one of the technical discussions presented to the annual meeting of the Structural Engineers' Association of California at the Yosemite meeting.—Editor.*

to a constant 10% more stress than another would be expected to fail sooner than the other. A pertinent statement is made in this report: To wit: "The relationship between yield and time under constant loading is essentially the same for all of the strength properties and for all levels of stress so far examined." This series of tests has also led to a very important observation, noted in the report. It concerns rate of deflection and time of loading and has a direct application to the evaluation of the adequacy of a timber structure. This observation is quoted: "A rate of yield remaining uniform for some time indicates approach to the inflection point in the strain-time curve and is a danger signal. When the rate of yield begins to increase, the inflection point has been passed and failure is imminent. These relationships are useful in the observation of the behavior of timber structural units or assemblies in which overloading or deficiency of strength is suspected." This quotation describes the signs of danger. A sign of safety is a decreasing rate of deflection.

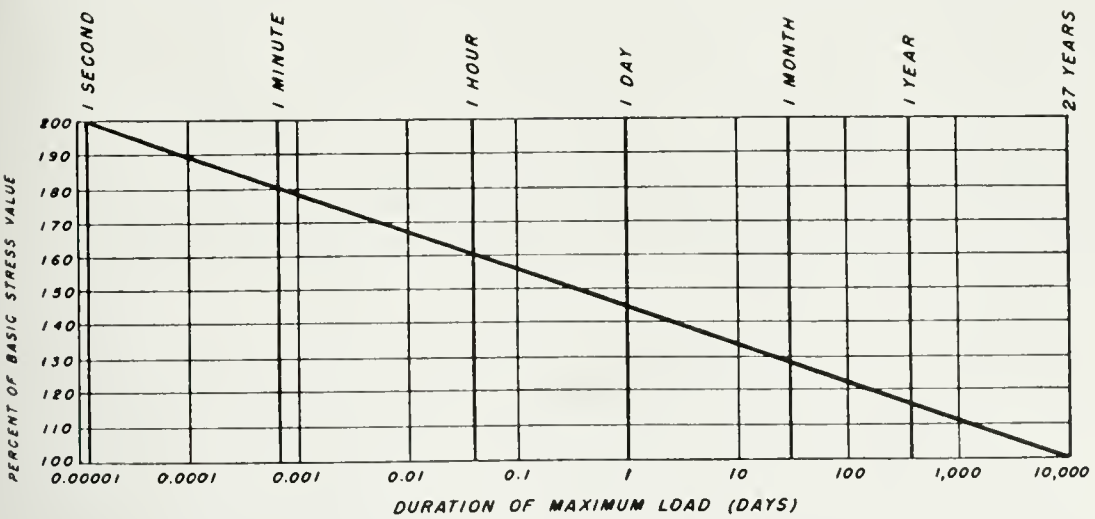
All of the research has culminated in a recent publication by the Forest Products Laboratory on Recommendations for Basic Stresses.[4] To the designing engineer, a most important item in this document is the chart on durations of load. Basically, this chart presents nothing startlingly new. Its basis was briefly stated at least ten years ago in a paper on aseismic design,[5] which was the then accepted relationship of stress to duration of load. The rule, convenient to remember, gives a stress increase of 10% for each decrease of time to one-tenth of the previous.

Additional tests have extended the relationship of load to time for a period of more than three years. Note that this seemingly short time period is nevertheless very close to the maximum duration plotted on the following chart. As the scale of the abscissa of this chart is logarithmic, the next significant time period that might be plotted by extrapolation would be about 270 years. Whether the line on this chart would continue to this period at the same rate as shown is of course not known nor will it be verified to anyone now living. Previous plotted graphs have indicated that there would be a leveling off of the stress value with an extension of the time of loading and such has been conducted over a long enough period to verify this. Substantiating the probability of a leveling off is the existence of many old and even ancient wood structures that have withstood the accumulated loadings and abrasions of many decades.

Thus, has the relationship of stress to duration of load been established and verified. From it, the lumber industry has adopted and now recommend a design specification[6] which gives working-stresses based on **normal conditions of loading** with adjustments thereto for other conditions of loading. A normal condition of loading contemplates fully stressing a member to the industry published allowable working stresses by the application of the full maximum normal load, continuously or cumulatively, for a duration of about three years. If a structure is to be used for many years and it will be permanently and fully loaded, then the allowable working stresses must be reduced to 90% of the published values.

As full loads are cumulative for each period of that loading, it remains to explain how the normal design load level was selected. Normal design loading assumes full maximum loading cumulatively or continuously applied for about 3 years.

(See Page 24)



Relation of basic stress to duration of maximum load.

INTERESTING DESIGN DETAIL OF THE HAMILTON STREET FRONT

CHURCH

SAN DIEGO STAKE AND NORTH PARK WARD CHURCH OF JESUS CHRIST OF LATTER DAY SAINTS

HAMILTON AND LINCOLN STREETS
SAN DIEGO, CALIFORNIA

LOUIS A. THOMAS, A.I.A.
Architect

This rather unique and decidedly attractive church building was recently constructed in San Diego, California, for the primary use of the North Park Ward, which comprises a congregation of approximately seven hundred and fifty members. The building also serves, however, as a stake center for the San Diego Stake of the Church of Jesus Christ of Latter Day Saints, where the several wards belonging to this stake gather for their quarterly conferences.

The normal seating capacity required for many of these quarterly conferences is in excess of one thousand persons while the maximum seating for the various ward activities does not exceed two hundred and fifty persons, plus an additional forty persons that must be seated in the choir and rostrum sections.

Since a chapel seating one thousand persons or more would obviously be entirely too large for the needs of the much lesser ward membership, it was necessary for the architect, Louis A. Thomas, A.I.A., to design a building wherein the spacious recreation hall, the adjoining lounge area and the stage facilities could be utilized when needed to provide for the many additional seats required for

- DIGNITY OF BRICK WALLS, TILE ROOF, TOWERING STEEPLE AND ARCHWAYS HAVE APPEAL

the stake conferences. By providing for a large opening between the chapel proper and recreation hall it is possible for most of the audience seated in the recreation hall, the lounge, or on the stage to see the pulpit.

In order, however, that everyone seated or standing within the conference area can hear the speaker or music eminating from the pulpit and choir portions of the building, a comprehensive public address system has been installed. Tone amplifiers and loud speakers are placed at vantage points to enable complete hearing at all desired times.

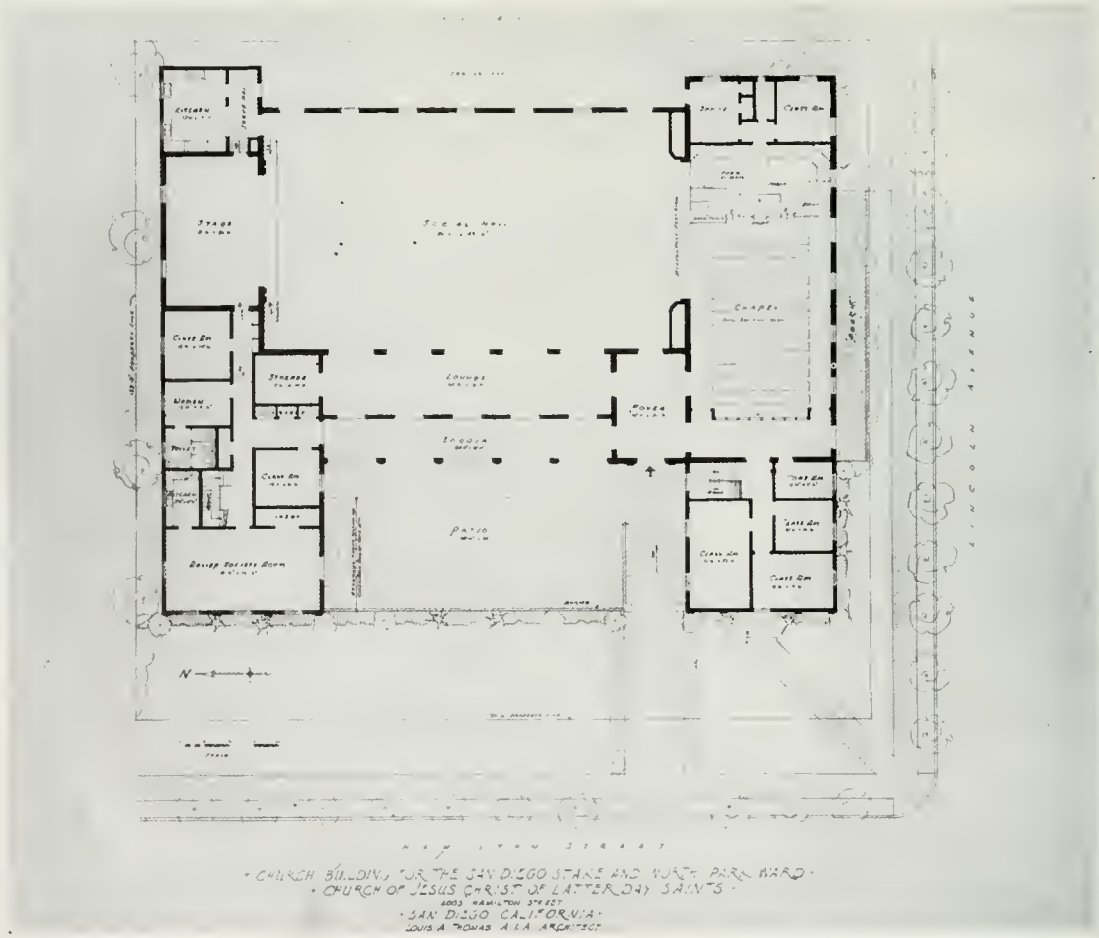
The large recreation hall has been equipped for a general utility use to take care of the needs of both the ward and stake gatherings scheduled there. There is a complete kitchen adjacent to the stage, dressing rooms and facilities for use of the stage. The floor is covered with asphalt tile and portable seats provide for complete clearing of the floor area if desired. An entrance has been provided so that the recreation hall may be used independent of the other portions of the building.

When the ward is using only the chapel, or when the recreation hall is being used only, provision has been made for the separation of the chapel from the recreation hall by the use of a folding partition which is drawn and serves as a wall between the two rooms.

Construction

The building itself is set back some distance from the sidewalk and because of a slight vari-

Floor Plan



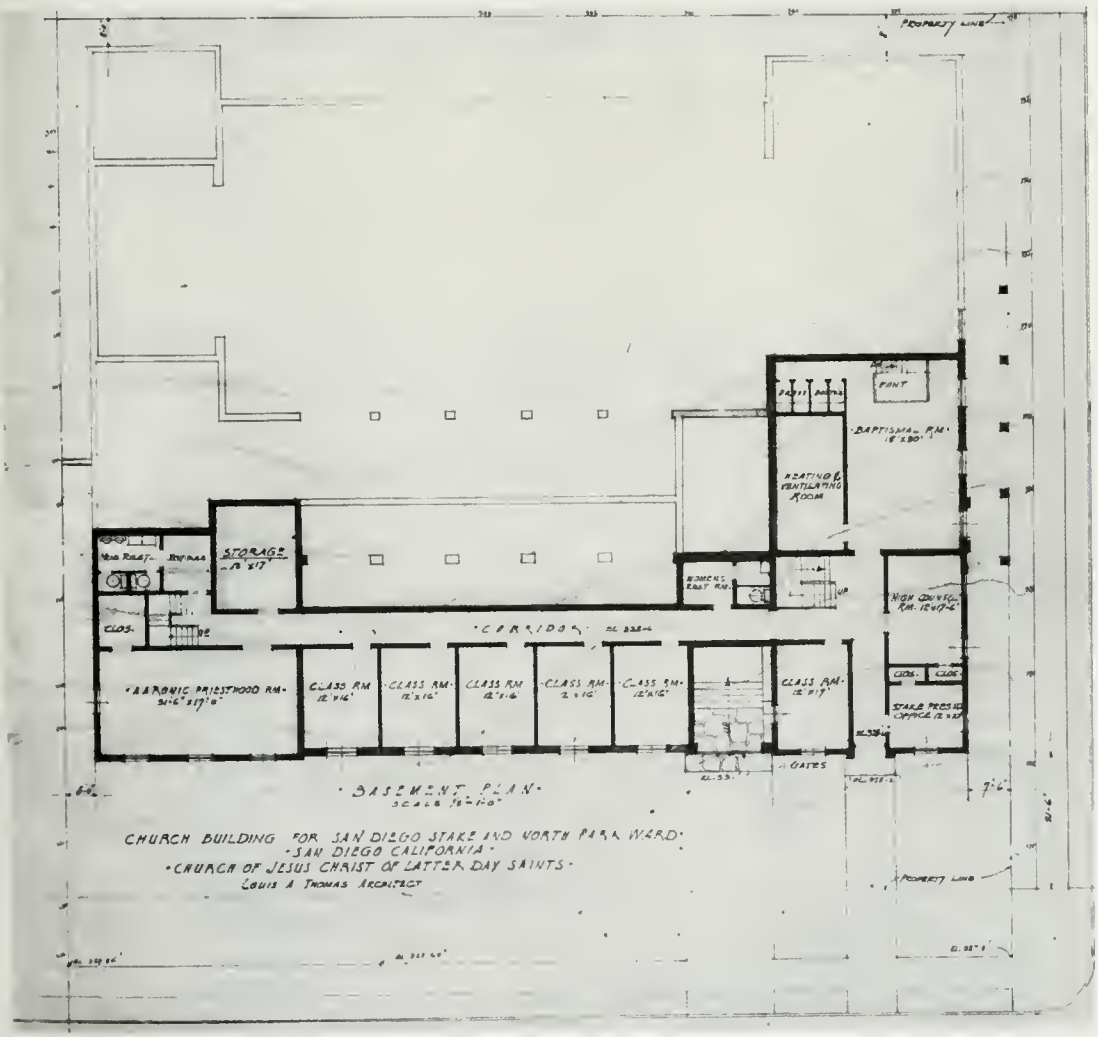
ance in lot elevation, a slightly sloping concrete walk has been built from the sidewalk to the patio entrance eliminating any stairs to be climbed upon entering the main portion of the building. Large iron grill gates, which may be easily opened or closed, form an entrance into the building and continuing along the patio from the gateway an iron rail fence serves as a protection between the patio and the lower ground area outside the building.

The exterior walls of the building are constructed of a local red clay brick while the trim is of cast stone. Exception is the walls fronting on the Hamilton Street side, which are in part made of concrete faced with Arizona stone.

The lower portion of the steeple tower is of red clay brick, while the top portion of the tower is constructed of a precast lightweight concrete. The steeple itself is of wood construction covered with a heavy copper sheet and forms a direct contrast to the general appearance of the building.

In keeping with the overall architectural design the roof has been finished with a red clay interlocking tile of variegated shades.

Basement Plan



ABOVE: The spacious Recreation Hall looking towards the stage—overhead panel design permits dual lighting effects; public address system speakers are located in corners of hall near ceiling; asphalt tile floor cover.

BELOW: Close up view of the "Loggia," showing column construction, span of archways and details of architectural design which contributes to the general appeal of the building. Arched doors are used for building entrance.

Photos by
Paul Robert
Valley Studios

In addition to the chapel, recreation hall and lounge the main floor facilities provision has been made for a number of activities which are allied to and associated with the church. Class rooms are available as are storage spaces, administration offices, and numerous other rooms, including rest rooms.

The loggia and patio are separated by a group of five archways and are both paved with Arizona flagstone. For the convenience of those using the building, a drinking fountain has been installed on the loggio near the entranceway into the lounge.

Floor coverings in the chapel, the choir and rostrum, the relief society room, the lounge and the Bishop's office are done in carpet; the recreation hall has a separate parquet floor, and the balance of the building is done in asphalt tile laid over a concrete slab.

The basement floor has been designed to offer a number of utility services continguous to the church. Classrooms for training classes, administration offices, storage space, special areas for the heating and air conditioning equipment, men and women rest rooms, and facilities for special church functions, are all provided for. The classrooms have been located on the street side of the building and a sufficient amount of height above ground permits the use of windows that allow daylighting in the classrooms.

There is a direct entrance to the basement from the street elevation so that the lower floor may be used without disturbing the operational functions of the main floor. A stairway from the basement leads to the cloak rooms on the main floor and here again an entrance has been provided which is entirely independent of the chapel and recreation hall areas.

INTERIOR of the Chapel—looking towards the Rostrum.

THE EFFECT OF DURATION OF LOAD ON WORKING STRESSES FOR WOOD

(From Page 17)

As permanent loading assumes full maximum load for the many years of the life of the structure, permanent loading is only realized on such structures as retaining walls, standby water tanks and the like. Obviously, such a loading condition does not fit the vast majority of structures and it is uneconomical to design them for such conditions.

As all but those loads which automatically class as permanent fluctuate both in duration and magnitude, loads of an amount less than that assumed in the design cause a stress suitable for a load duration longer than that assumed. Therefore, only the loads equal to the assumed loads are cumulative for the stress level and commensurate duration selected.

The decision to use normal conditions of loading for the design of warehouses seems to be of the most concern. It is not probable that all of the loads that are placed in a warehouse will equal the maximum capacity of that structure. Loads that are only 90% of the maximum are at permanent load level and cumulative effect is voided. Those times when loads reach full maximum will be of comparatively short duration because there is normally an early draw-down on the warehoused stocks. The National Bureau of Standards made a survey of building loads some years ago. Dry goods stores, apartments, vaults containing stored records and the like were weighed. In each instance, the actual loads were less than the assumed loads used in design.

The durations for other conditions of loading are more obvious in their determination and will not be discussed.

In establishing working stresses from test data, a reduction factor is applied to the test results. The reduction factor includes an adjustment for duration of load and among other items a value for factor of safety. Thus, the factor of safety will be constant for any level of allowable unit stress when that stress is adjusted in accordance with the proper duration of maximum load.

References—

1—Wood in Aircraft Construction by George W. Trayer. 1930.

2—Bulletin 479—Strength and Related Properties of Woods Grown in the United States by L. J. Markward and T. R. C. Wilson. 1935.

3—Behavior of Wood under Continued Loading by Lyman W. Wood Engineering News Record—Dec. 11, 1947.

4—Supplement No. 2 to Miscellaneous Publication 185—Guide to the Grading of Structural Timbers and the Determination of Working Stresses—Recommendations for Basic Stresses—June, 1948.

5—Aseismic Design of Wood Structures: Duration of Stress Considerations by Theodore C. Combs—Oct., 1939.

6—National Design Specifications for Stress Grade Lumber and Its Fastenings—1944 revised 1948.

HOW CAN AN ARCHITECT BEST MAKE PRELIMINARY ESTIMATES

(From Page 9)

allowance be made for connecting to existing sewers, lighting and power lines and water lines.

Getting back to the question which was put to me when I was asked to give this talk, namely, "how can an architect best make preliminary estimates?" I would suggest another approach, other than taking a capable contractor's advice, and that is for an architect, if he has built a structure at all similar to the one which he has under consideration at the moment, to try to measure the difference between the structure that has been built and the contemplated structure. The architect, probably better than anyone else, can express an informed judgment as to how the building varies from the old—for example, 10% or 20% more or less costly, or is it more elaborately finished, etc.

At this point there comes in, of course, the fluctuation in cost of building over the past 40 years. This fluctuation can be measured by any one of the several pretty-generally accepted cost indices. For the benefit of those who are present or who may read this paper later, I give below the Turner Construction Company's Cost Index which speaks for itself. A building that was built in 1938, for example, would today cost 209 times as much. 96

If the structure on which a preliminary estimate is desired has no precedent in the architect's office, obviously this procedure doesn't apply and the architect has either to turn to his contractor friends or perhaps refer to various cost hand books. In my experience the latter are not very reliable because they seldom give all the essential controlling characteristics of a building whose cost they record.

In order to be somewhat more constructively helpful than I have been up to date, I suggest that the tabulation on page 25 prepared by Mr. Rosen-

burgh may be useful. This lists 19 different types of buildings broken down for each classification as noted. These buildings have been built over the past 25 years in many cities and under varying cost conditions. However, the price ranges charted have been reduced to a common base, namely, February 1950. The minimum average and maximum costs per cubic foot shown may be, if carefully used, not too bad a guide for very rough preliminary estimating. Mark well the words, "if carefully used." The temptation of an architect when seeking a job to use the lower left hand figure is in my experience not too often resisted. Even the average figure may be misleading. The safe thing for an architect, in my judgment, is to tell his client, at least in the very preliminary stages, that a given building may vary at least in cost within the range noted in the tabulation:

Practically none of the buildings used in preparing this Turner chart were air conditioned. Air conditioning in an office, hotel or apartment house, or almost any other building, will add from $2.00 to $3.00 per square foot depending upon how thorough a job of air conditioning is done.

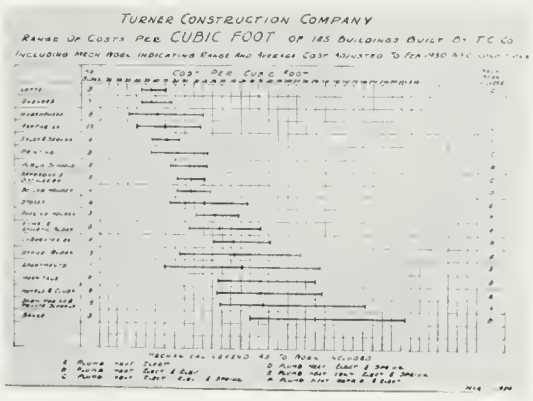
In preparing cost estimates of any structures and basing these estimates on the cost of previously built buildings, an architect should have in mind that the current higher cost of buildings is due not only to increase in unit costs occasioned by higher wages, more costly materials and more onerous working conditions, shorter work weeks, heavier insurance, taxes and the like, but also in no small part to the fact that buildings today are generally better structures, having more gadgets and more facilities than those of two or three decades ago. Air conditioning is only one. Take lighting—when I first entered the business 40 years ago, 7 or 8 foot candles was all that was required in the average industrial building, and perhaps 15′ candles in an office building. Today 30′ to 50′ candles is the rule. Fluorescent lighting has to a great extent replaced incandescent lighting. This is not the place to completely list other such items of work but you all know how demanding most of your clients are nowadays.

While preliminary estimates can vary greatly from the final cost of a structure, I would like to take this opportunity to call attention to the fact that even detailed carefully prepared quantitative estimates, based upon wide range of reliable subbids, can vary a great deal. We bid on a job 2 weeks ago where the low bid was $4,900,000, and the high bid was $8,900,000. On another job, the range was $10,200,000 to $12,200,000. These spreads reflect the varying judgements of the competing contractors. They also in many cases reflect the completeness of the architect's plans and specifications. As I said in the beginning of this talk, an estimate is only as good as the information upon which it is based. Similarly, the bids of competing contractors vary almost directly with the completeness and accuracy of the plans and specifications.

Preliminary estimates can vary greatly from the final actual cost, depending on the state of mind of the man preparing the estimate. Is he "his brother's keeper" or not? Does his estimate go all the way or does it merely cover part of the picture?

For example, the other day I was asked what a junior high school would cost in a certain community in New Jersey. Preliminary estimates by the architect were given as 70c per cubic foot. Our records and a check with 2 large architectural firms specializing in design of school buildings indicated that the minimum cube that the County ought to shoot at was about 85c or perhaps 80c if everything broke right. However, this figure was for the bare building. It did not include anything outside the building line. When you came to add the cost of sidewalks, curbs, entrance driveways, landscaping, recreational facilities, cost of bringing in mechanical services and architect's fees the best opinion seemed to be that the County ought not to figure on less than $1.00 or $1.10 per cubic foot.

We are asked frequently if we can build a warehouse for $5.00 per square foot or a factory building for $6.00 or $7.00 per square foot. If we answer yes, having in mind the bare building, exclusive of any work outside the building line and forget subdividing partitions, other than around stairs, elevators, and toilet rooms, and omitting any machine foundations, we would probably be about right. On the other hand, doesn't the owner really want to know what his new warehouse or manufacturing plant is going to cost him complete including such items as these just mentioned, as well as those listed, in connection with the junior high school, together with sprinkler tanks, water supply systems, fire alarm and watchman installations, park-



ing areas. If the overall picture is estimated the costs come up on an industrial plant from say $7.00 to nearer $9.00 or $10.00 and on a laboratory from $20.00 to perhaps as much as $30.00 per square foot.

One other angle on preliminary estimating occurs to me and that is the pitfalls that await the unwary architect in using off-hand cube foot or square foot prices without putting some penetrating thought into an analysis of them. Over a luncheon table an architect may ask a fellow practitioner what he is building a certain apartment house or hotel or loft for. A certain boastful pride often comes in and a figure of $1.00 or $1.50 or 70c a cube foot is given. What does this figure include? Has it got everything in it and is the building to which the quoted price applies truly similar to the job which the inquiring architect has in mind. Actually preliminary estimates many times are like the answers anyone would get if he was asked, "how much does a suit of clothes cost."

I think it was Euclid who said that "there is no royal road to knowledge." He certainly must have been thinking of estimating when he made that remark. Some of those who are concerned with the problem that the architect faces of getting sound preliminary estimates to compete with the preliminary estimates furnished so readily and apparently authoritatively by the package service architect - engineer - contractor, have wondered whether it would be possible to set up an estimating bureau managed by some contractor's organization, or by the Producers Council, or by some of the trade associations, such as the Portland Cement Association, or the American Iron & Steel Institute.

In my judgment an attempt to create estimating service of this manner would fail for many obvious reasons.

It might be, however, that some of the architectural magazines might be interested in setting up a section giving monthly the cost of typical buildings. Even if this were possible of accomplishment, to me is would be futile in meeting the problem under discussion. Few buildings are exactly similar. As pointed out already herein, there are a host of variables which can greatly affect preliminary estimates. Most owners of buildings would probably not allow, or would at least resent the public use of costs pertaining to their building.

Even in our Company, with an experience totaling close to $1,000,000,000 of contracts executed, involving the construction of some 2300 or more buildings, we find it difficult to clearly appraise the cost of a project on preliminary information where the owner's requirements are frequently left largely to our imagination. Preliminary estimates should not be undertaken lightly. They frequently get the architect or the contractor into hot water later on. Care and study are required to develop in the mind of an estimator the probable owner's requirements.

Again I say, there is no royal road to this kind of knowledge. Preliminary estimates that are worth anything have just plain got to be sweated out.

MARBLE INSTITUTE PRIZES AWARDED

In a competition in which more than 193 students participated, representing thirteen schools of architecture throughout the United States, students of Princeton University and Western Reserve University shared top honors, according to a recent announcement by Roy E. Mayes, President of the Marble Institute of America, sponsors of the event.

The problem submitted by the Beaux-Arts Institute was prepared by Howard L. Cheney, A.I.A. of Chicago and was designed to center the interest of students on Marble and other richly decorative materials which can be used in combination with Marble. It required the design of an interior of a Court House Lobby, with particular emphasis on good lighting, refined and decorative qualities of Marble and drawings required, 1) a plan of the entire area, 2) Ceiling plan of the lobby proper, 3) Longitudinal section of lobby facing south, 4) Longitudinal section of lobby facing north, and 5) Perspective of lobby rendered in color.

First Honor was won by Edward B. Reed, Princeton University; Second Honor, Roy S. Febo, Western University; Third Honor, A. Perry Morgan, Jr., Princeton University; and Fourth Honor, Louis Eyster, Western Reserve University.

The award jury included Charles W. Beeston, Chairman, Max Abramovitz, Charles H. Bauer, Jr., Robert Carson, Alonzo W. Clark, III, Francis X. Gina, Francis Keally, John M. Liptak, Roy E. Mayes, Benjamin Moscowitz, Ralph Meyers, Robert K. Posey, Jedd S. Reisner, Hugh N. Mormney, Daniel Schwartzman, Abel R. Sorensen, Maurice D. Sornik and Kenneth K. Stowell.

OPENS ARCHITECTURAL OFFICE

Matt Lehmann recently announced the opening of an "architectural engineering office" in Redwood City, California.

NEW BUS DEPOT AT RENO

The Pacific Greyhound Lines will construct a new bus depot in Reno, Nevada, consisting of a one- and two-story reinforced concrete building.

Included in the building, in addition to ample facilities for handling of bus traffic, will be a restaurant and dormitory.

E. Keith Lockard of Reno is the architect.

LOS ANGELES APARTMENT PROJECT ONE OF THE LARGEST

Construction of Gloria Homes on Santa Barbara Blvd. and Rodeo Drive in the heart of the new Crenshaw district of Los Angeles, represents one of the larger apartment house construction projects in the West.

Comprising 423 one- and two-bedroom smartly designed garden apartments in 28 structures, Architect Maurice H. Fleishman reports the cost of construction will approximate $3,000,000.

ARCHITECTS OPEN NEW OFFICES

Arthur D. Janssen, A.I.A. Architect and William H. Daseking, Architect Associate, have opened offices at 1616 El Camino Real, Menlo Park, California, for the general practice of architecture.

SANTA ANA YWCA WILL BUILD

The Santa Ana-Tustin Young Women's Christian Association has announced plans for a headquarters building to be built at an estimated cost of $200,000, according to Harold Gimeno, architect.

The building will contain a large gymnasium which can be used for social affairs and community meetings; a kitchen, lunch room, nursery, craft room and patio. Mrs. Aubrey L. Glines, president, reports that Mrs. M. B. Wellington is in charge of the building campaign.

ARCHITECTURAL OFFICES—SEATTLE

Olson and Olson, Architects, recently announced the opening of offices at 2437 Market Street, Seattle, Washington, for the general practice of architecture.

EXTENSIVE SUBDIVISION APPROVED

The City Council of Orange (California) has approved a $400,000 subdivision project which will consist of the construction of forty-two homes on eight and three quarter acres of land.

The project will be developed by the Secrest Construction Company of Whittier.

ARCHITECT IS SPEAKER

Raymond J. Ashton, F.A.I.A., architect of Salt Lake City, Utah, was one of the principal speakers at the recent 31st annual convention of the Associated General Contractors of America in San Francisco.

NEW HOME ECONOMICS BUILDING

The Board of Regents of the University of California recently announced the proposed construction of a four-story reinforced concrete building on the Berkeley campus to serve as a new home economics building.

Estimated cost of the project is $750,000, according to Eldridge T. Spencer and Wm. C. Ambrose, San Francisco, architects.

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Central Coast Counties Chapter:
Birge M. Clark, President; Lisle Fred Richards, Secretary-Treasurer; Thomas E. Elston, Jr., Chester Root and Henry Morgan Stedman, Directors. Office, 411 Lafayette Street, San Jose.

Colorado Chapter:
Henry J. Von Wyl, President; Charles H. Overholt, Secretary, 2509 W. 36th Avenue, Denver, Colorado.

East Bay Chapter:
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Spokane Chapter:
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Tacoma Society:
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STATE DIRECTOR OF THE ARCHITECTS APPOINTED

Frederick A. Chase, Los Angeles, has been appointed to head a state-wide public relations program, sponsored by the American Institute of Architect Chapters of the State of California, and will serve as executive manager of the California Council of Architects.

Chase was formerly associated with the Associated General Contractors and was active in the drafting of the California Community Redevelopment Act.

SOUTHERN CALIFORNIA CHAPTER

Howard L. Holtzendorff, executive director of the Housing Authority of the City of Los Angeles, told mmbers at the March meeting that architects have "An opportunity of a lifetime . . . in shaping the nature of things to come," and cited slum clearance and planning as two major examples. He also believes that government sponsored activities will call on the talent and cooperation of the architects to "establish those standards of physical, social and esthetic improvement which the communities deserve," and that the new housing program in Los Angeles "will not use canned plans."

* * *

The architects of San Fernando Valley have started planning for their next semi-annual ex-

hibit which will be held May first, according to group president Harry Hillier.

* * *

Victor Gruen, chairman of the Public Press Relations Committee, recently spoke on the subject of "Lighting" at the Architectural Education Forum.

* * *

The third annual Modern House Tour, sponsored by the Redcliffe College Alumnae, will be held on April 22.

* * *

Convention delegates. The following members will attend the A.I.A. convention in Washington, D. C.: President John Rex, A. C. Martin, Jr., Herbert Powell, John Landon, Kemper Nomland, Samuel Lunden, Charles Matcham, Adrian Wilson, Henry L. Wright, Arthur Gallion, Walter Hagedohf, Robert Alexander, Charles Fry, Savo Stoshitch, Anthony Thormin, Eugene Weston, Arthur Froelich and Jack Lipman.

* * *

MEMBERS: New Institute members include Robert E. Faxon and Aaron G. Green; New Junior Associates Stanley B. Epstein, Karl O. Van Leuven, Jr., Carl A. Neidengard, and Walter Rein.

UNIVERSITY OF OREGON SCHOOL OF ARCHITECTURE

The University of Oregon School of Architecture and Allied Arts will go on an upper division basis effective with the fall term of 1950, according to an announcement by Dean Sidney W. Little.

In effect this will require junior standing in college for admission to the school but will not alter degree requirements which will remain at five years for architecture and interior design and four years for general art.

The change to upper division status is in line with a general trend at the University to require a broader background in liberal arts and sciences for majors in the professional areas.

One of the largest combined units in the nation, the Oregon school has an enrollment of nearly 700 students.

WASHINGTON STATE CHAPTER

Russell Scott, senior industrial hygienist of the Industrial Health section of the Washington State Department of Health spoke at the April meeting on the subject "Public Health and Safety in Building Construction."

The March meeting was devoted to a discussion of Seattle's parking problem with John D. Spaeth, Director of Planning; J. W. A. Bollong, City Traffic Engineer, and John Nordmark, County Planning Director taking part. The meeting was presided over by vice president Perry B. Johanson.

* * *

The Chapter Accident and Health Insurance

(See Page 38)

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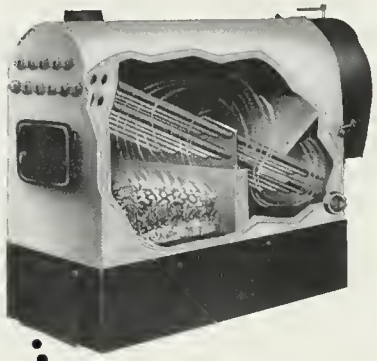

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WITH THE ENGINEERS

Structural Engineers Association of Northern California
Arthur W. Anderson, President; John E. Rinne, Vice President; Franklin P. Ulrich, Treasurer; Geo. E. Solnar, Jr., Secretary. Howard C. Schirmer, Walter L. Dickey, Geo. A. Sedgwick, Harold O. Sjoberg and Jesse Rosenwald, directors.

Structural Engineers Association of Central California
William H. Petersen, President; Walter S. Wassum, Vice President; O. T. Illerich, Sec. Treas.; Ernest D. Francis, M. A. Ewing, and Arthur A. Sauer, directors. Office O. T. Illerich, c/o Div. of Arch., Sacramento.

American Society of C. E.
San Francisco Section
A. W. Earl, President; G. B. Woodruff, Vice President; C. T. Wiskocil, Vice President; R. D. Dewell, Secretary-Treasurer. Secretary's Office, 604 Mission Street, San Francisco.

Structural Engineers Association of Southern California
E. C. Hillman, Jr., President; Donald F. Shugart, Vice President; Robert J. Shart, Secretary-Treasurer. Directors: Charles M. Herd, John Minasian, Harry Bolin, John Case and Lewis Osborne. Office, 202 Architects Bldg., Los Angeles 13.

Puget Sound Engineering Council (Washington)
R. E. Kister, A. I. E. E., Chairman; E. R. McMillan, A. S. C. E., Vice Chairman; L. B. Cooper, A. S. M. E., Secretary; A. E. Nickerson, I. E. S., Treasurer. Offices, L. B. Cooper, c/o University of Washington, Seattle 5, Washington.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY ANNOUNCE SYMPOSIUM ON SOLAR ENERGY

A Course-Symposium on the subject of "Space Heating With Solar Energy", has been announced by the Massachusetts Institute of Technology for the week starting August 21st.

The series of two hour lecture and discussion periods will include a brief historical survey of the attempts at utilization of solar energy; classification and discussion of types of solar heat collectors; a review of current research, solar geometry, climatic factors and atmospheric absorption, design of collectors, methods of heat storage, and the solution of a few typical design problems.

The project is being sponsored as a part of the Dr. Godfrey L. Chabot Fund, and anyone interested in attending should contact Donald F. Monell, Research Associate, Massachusetts Institute of Technology, Cambridge.

STRUCTURAL ENGINEERS ASSOCIATION OF SOUTHERN CALIFORNIA

The regular April meeting was held in Los Angeles with Lloyd Aldrich, Los Angeles City Engineer, speaking on the subject, "Speedier Financing of Los Angeles Parkway System."

Also appearing on the program was Merle Smith of the T-S Construction Company and representing the Associated General Contractors. His subject was "Contractor versus Architect and Engineer."

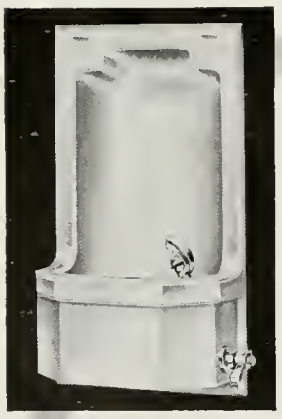
* * *

The March meeting, held in the Aeronautical Sciences Building, was presided over by President Ernest C. Hillman.

Harry Bolin, Past President, pointed out that the National Spring meeting of the American Society of Civil Engineers will be held in Los Angeles during the latter part of April and that several structural papers will be presented by local structural engineers at the Ambassador Hotel on Wednesday, April 26th. He urgently requested that as many engineers as possible be present on that date. Trent Dames reported that several soil mechanics papers will be presented on Friday, April 26th, at the same place.

Three Russian Engineers were introduced. These three men, Mr. Parchaev, Architectural Engineer; Mr. Pribitkov, Architectural Engineer, and Mr. Malov, Mining Engineer, have been recently admitted to the United States as displaced persons. They are seeking employment in their professions.

After a short intermission the program continued. Mr. L. B. Kellerman of the Victor Equipment Company showed movies and gave a talk on "Split Second Fastening," showing the application of the Nelson Automatic Stud Welder. The stud welder reduces the time of applying roofing and siding



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by as much as 64%. In stud welding, a gun is loaded with a stud, then placed against the member carrying the roofing or siding. The weld is made by pulling the trigger and fusing the stud to the connected piece all in one operation. The welded connection of the stud is stronger than the stud itself. Studs varrying from #10 gauge wire to ¾ round bars may be used.

The second speaker for the evening was Mr. Ralph N. Conner, Western Representative of the Testing Equipment Division of Baldwin Locomotive Works, who spoke on the applications of the SR4 strain gauge. The SR4 strain gauge is based on the principle that elongation between two points on a wire causes greater electrical resistance between these points. SR4 strain gauges may be permanently placed in a building and left until an earthquake deflects the building and causes readings of the gauge. This is probably the only practical method for determining true earthquake stresses in a structure. Also strain gauges may be placed at strategic spots on a complex structure to read stresses that should otherwise be too complicated for analysis.

* * *

NEW MEMBERS: Associates S. J. Collins, Harold Manley, Mario Palmieri, Frank T. Collins, Vern D. Heddon, David Narver, Jr., Clarkson Pinkham, and Jerome Peterson. Junior Members Bob Dalton, Jr., and George Youngelaus, and Affiliate member George McClintock.

STRUCTURAL ENGINEERS ASSOCIATION OF NORTHERN CALIFORNIA

"Discussion of Structural Steel" was the subject of a talk at the April meeting by W. B. Kennedy, Senior Service Metallurgist of the Columbia Steel Corporation of San Francisco, and the subject of "Pre-Cast Reinforced Concrete Building Design" was discussed by F. Thomas Collins, Consulting Engineer of Los Angeles, who has designed a number of buildings using pre-cast "Tilt-Up Wall Construction" as well as pre-cast rigid frames, floors and roof slabs.

It was reported the California Legislative Council of Professional Engineers was studying a plan whereby a greater number of the profession would be represented.

* * *

The March meeting was devoted to a discussion of "Lateral Forces" with the Joint Committee on Lateral Forces offering numerous suggested Code provisions. The Committee is preparing its final report which will be presented to the boards of directors of the two sponsoring societies, San Francisco Section of the A.S.C.E. and the S.E.A.O.N.C.

* * *

The Structural Engineers Association of California has announced the 1950 Annual Meeting will be held at the Coronado Hotel during October.

STRUCTURAL ENGINEERS ASSOCIATION OF CALIFORNIA

Harry W. Bolin, president of the Structural Engineers Association of California recently announced the annual meeting of the organization will be held on October 12-14 at the Coronado Hotel.

Subjects scheduled for discussion will include, the plastic flow of concrete, pre-stressed concrete, design for atomic blasts and a series of short talks on new engineering developments.

A.S.C.E. SPRING MEETING

The spring meeting of the A.S.C.E. will be held at the Ambassador Hotel in Los Angeles, April 25-29. A series of technical division sessions are scheduled for the five day sessions.

PORTLAND S.E.A. FORMED RECENTLY

A Structural Engineers Association has been formed in Portland, Oregon, according to recent reports, with engineers of the State of Oregon representing the membership.

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PRODUCER'S COUNCIL PAGE

The National Organization of Manufacturers of Quality Building Materials and Equipment affiliated with THE AMERICAN INSTITUTE OF ARCHITECTS

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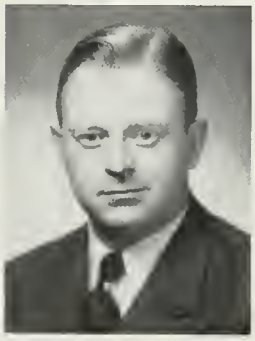
Vice-President, A. J. MacJennett, Mueller Brass Company, 475 Ninth Street
Secretary, Art Staat, Natural Gas Equipment Inc., 1150 Folsom Street
Treasurer, Fred A. Figone, Otis Elevator Co., 1 Beach Street

Edited by Don W. Lyon, LIBBEY-OWENS-FORD GLASS CO.

The March "informational meeting" of the San Francisco Chapter produced one of the largest attendances in recent years. The program was presented by the Owens-Corning Fiberglas Corporation with Claire Bacon, Technical Plastics Advisor from the Company's general offices in Toledo, and Erv. White, head of the Textile and Plastics Division on the West Coast, as headliners. Don Colburn, San Francisco sales manager, contributed materially to the success of the affair, which outlined the rapid growth of this new industry with particular emphasis being given to the field of low pressure plastics.



Jim Ferguson
Johns-Manville Building Products Division

Introducing:

JIM FERGUSON, CHAIRMAN TABLE TOP COMMITTEE FEATURING "SPECIFY WITH ASSURANCE" IN 1950

Jim Ferguson, representative of the Johns-Manville Building Products Division for San Francisco and San Mateo counties, will serve as Chairman of this year's Table Top Committee.

Scheduled to be held in the Colonial Room of the St. Francis Hotel, San Francisco, on Wednesday, May 24th from 2 p. m. to 7 p. m., the event will feature "Specify With Assurance" with more than fifty building material manufacturers and representatives exhibiting a large number of newest production items. Refreshments and a buffet supper will be served in the Italian Room of the St. Francis Hotel from 5 to 6.

Invitations have been issued to all Architects in the Bay Area, State and County Municipal representatives of Planning and Purchasing Departments; Superintendents and Maintenance men in charge of school districts; Executives of the local F. H. A. offices; key personnel from the U. S. Engineers, Army and Navy; and a group of leading General Contractors and interested Engineers. Admission is by invitation only.

Ferguson lives in Menlo Park with his wife and two young sons; he and the "Mrs." are both graduates of the University of Oregon—Jim in the School of Business Administration, plus a Post-Graduate year at Stanford University in California. His hobbies are: designing new homes for the Ferguson family, and numerous sports events—particularly those events in which his boys are participants.

MERICAN INSTITUTE OF ECORATORS ELECT

The American Institute of Decorators 19th annual convention held in New York City the early rt of April elected the following officers to serve the ensuing year:

Karl Bock, New York, president; Theodor Muller, w York, chairman of the board; William Macthur, Milwaukee, first vice president; Ross iele, La Jolla, second vice president; Berenice Fligman, Chicago, third vice president; Elisath C. Draper, New York, secretary; Newby urray, New York, treasurer, and Genevieve Hencks, Washington, D. C., assistant secretary-asurer.

ILADELPHIA'S TRIANGLE PROJECT

A project in the City of Philadelphia calling for razing of structures in the central city and the nstruction of super-highways and commercial ildings and apartment houses, and will elimite the present "Chinese Wall," a railroad overss that runs along one of the main thoroughfares two miles.

An exhibition of scale models, drawings and arts, was recently shown at the Philadelphia Art liance with commentaries on the project by Edrd Hopkinson Jr., chairman of the Philadelphia y Planning Commission; Edmund Bacon, direcof the planning commission; George Howe, airman of Yale University's department of architture, and Theo B. White, chairman of the Art liance's architectural committee.

CEIVES COMMISSION

The San Francisco architectural firm of Bliss & rt, Trudell & Berger has been commissioned by State of California to prepare a Master Plan the restoration of the old Mother Lode mining vn of Columbia in Tuolumne county.

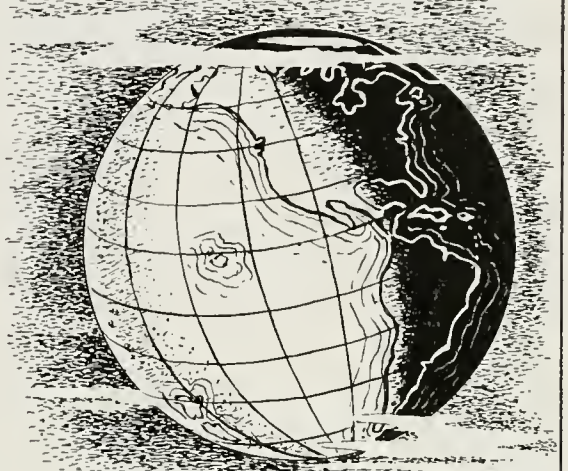
PPOINTED CALIFORNIA REPRESENTATIVE

William H. Fuller, Whittier, has been appointed lifornia representative for the La Salle Wallamp d Heetaire products, according to a recent anuncement of the Buffalo, New York, lighting conrn.

PENS ARCHITECTURAL PLANNING OFFICE

Peter Kump, A.I.A. Architect, recently anunced the opening of offices at 262 California reet, San Francisco, for the practice of architecre and planning.

2¢ MORE FOR WIRING



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Today's electrical living requires many more appliances and much better lighting than in general use five or ten years ago. But it all revolves around good wiring.

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HEADLINE NEWS & VIEWS

By E. H. W.

AN older house can prove a good buy if the purchaser determines the value in advance by careful inspection — IF, in doubt cousult an Architect.

* * *

THE critical shortage of water supplies in New York and New Jersey and the lowering of the water table in the nation generally should emphasize the importance of water conservation.

* * *

ZONING and modulation are two of the most important advances made by the heating industry in recent years.

* * *

A WOMAN'S place is not only in the home—but also in designing and building it.

* * *

FREEDOM from competition is the essence of monopoly power. Technological advance alone has brought even keener competition.

* * *

THIS is the Silver Anniversary year of the Calaveras Cement Company, it being incorporated in 1925. The Company would have progressed further had they been regular advertisers in ARCHITECT & ENGINEER magazine, established 1906.

* * *

DURING the year 1949, U. S. Steel Corp'n expended $179.1-million for additions to and replacements of its facilities, and in the postwar period has expended $875.1-million for facilities.

* * *

"WE builders throughout the country learn more about what the buying public wants in their particular city in one afternoon, as we sell our houses, than the so-called Washington experts who have been elaborately diagnosing the housing needs of the country, can learn in a year.":—Thomas P. Coogan, President National Ass'n of Home Builders.

* * *

"A CREW of 14 California fish and game employees set a new record recently when they clipped the fins of 208,000 salmon in a three week period."—That's right, a legitimate clip joint.

* * *

UNITED STATES International Trade Fair, scheduled for Chicago in August, will feature building materials, machinery and equipment gathered from all parts of the globe.

* * *

SHIPMENTS of steel products at 5,482,691 net tons in January were the largest for any month since April 1949:—American Iron & Steel Institute

IN THE NEWS

COLUMBIA CONFERENCE CONSTRUCTION COSTS

The Department of Industrial Engineering of Columbia University, New York, will conduct a five day conference on the costs, budgeting, and economics of Industrial research on June 12-16.

Experts from industry and the University will participate in lectures, discussions, and clinic sessions designed for the practical research and development administrator.

The conference is to be in charge of Professor David Bendel Hertz of the Industrial Engineering Department.

NEW PRODUCT IN ROOFING MATERIAL

A new product in roofing materials is the "Cant Strip" recently announced by the Cleotex Corporation of Chicago.

Asphalt coated on all surfaces, this cane fibre board reduces danger of moisture absorption, and assures a superior bond of the strip to wall, roof deck, or roof insulation.

Extending 4 in. up the wall and 4 in. over the deck, they are available in lengths of 40 in. or 47 in., packaged 32 pieces to the carton. Easy to handle and cut, they are protected from attack by termites, dry rot or fungus growth.

HARDWOOD PLYWOOD STANDARDS READY

The Commodity Standards Division of the National Bureau of Standards has announced that printed copies of Commercial Standard CS35-49 covering Hardwood Plywood are now available.

Minimum specifications for four standard types based upon water resistance and durability of the bond, in four standard grades is included. Tests, densities, standard thicknesses, widths and lengths, tolerances, workmanship, inspection, method of ordering, and nomenclature and definitions are also included.

NEW COUNTY GENERAL HOSPITAL

The County of Merced will soon construct a new 76-bed County General Hospital at an estimated cost of $850,000.

Chas. E. Butner, Salinas, is the architect.

TO BUILD JUVENILE HALL BUILDINGS

Alameda County will enlarge juvenile facilities by construction of a new Juvenile Hall Building on the Fairmont Hospital grounds in San Leandro at an estimated cost of $1,800,000, according to a recent announcement.

The main building will be of two-story construction while four buildings will be designed to house boys, and one building for girls. Recreation building and a baseball diamond are also planned.

Kent and Hass, San Francisco, are the architects.

SALES OFFICE PROMOTIONS

Four promotions in the Los Angeles sales office of Columbia Steel Company have been announced by Francis S. Howard, division vice president of the Southern Sales Division.

Appointed to head the two account groups are Loring S. Brock and L. W. Hall.

M. J. Cover has been appointed division staff manager and Dan M. Petrakis has been named service manager.

AWARDED U. S. ENGINEERS CONSTRUCTION CONTRACT

Winston Bros. Corporation of Azusa (California) has been awarded a contract by the Corps of Engineers, U. S. Army, for the construction of a Spillway and East Embankment on the San Gabriel River at $3,022,478.25.

Work is to start immediately and it is expected the entire project will be completed by the end of 1953.

Some buildings grow old quickly, become grimy and weather stained, bear the scors of street level abuse, and lose the smart, modern feeling incorporated by the architect.

Not so, however, when it wears a perpetually pleasant face of ARCHITECTURAL PORCELAIN.

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BOOK REVIEWS
PAMPHLETS AND CATALOGUES

WAYS WITH WATERCOLORS. By Ted Kautzky, A.N.A. Reinhold Publishing Corporation New York. Price $10.00.

Graduating from the University of Hungary in Budapest, Hungary, in 1921, the author came to the United States two years later and become an American citizen in 1929.

His paintings exhibited in the United States and Europe have won many honors, and he is also author of an educational motion picture film for Encyclopedia Britannica Films, Inc.; and the publications Pencil Broadsides and Pencil Pictures.

The book is divided into two parts—1) primary requisites for watercolor painting, and 2) a graduated series of exercises in the making of complete landscape pictures.

Many illustrations and examples are provided.

PLAN YOUR HOUSE TO SUIT YOURSELF. By Tyler Stewart Rogers. 2nd Edition, Revised and Enlarged. Charles Scribner's Sons, Publisher, New York. Price $3.95.

Divided into four parts the author covers the subjects of 1) Approach to Planning, 2) "Developing the Plan", 3) "Equipment and Construction Materials", and 4) "Adjusting Desires to dollars."

The book is essential to anyone planning a new house or remodeling an old one, and has been accepted for many years as a classic in its field. Radiant heat, solar heating, air-cooled roof, and the expansible house; as well as latest F.H.A. and Veterans Administration regulations are covered in full. Some very pertinent safeguards for mortgage buying are also covered.

The author is an expert on building materials, former President of the Producers' Council, and author of many articles relating to building.

ART PROFESSIONS IN THE UNITED STATES. The Cooper Union Art School, New York.

Opportunities for the professionally trained designer are highlighted in this new 112 page book compiled and written by Dean Dana P. Vaughan of the Cooper Union Art School, Dr. Royal B. Farnum of the Art Schools Advisory Council, and Elizabeth McCausland, writer and historian.

The book is "an exploration of professional art education in relation to art employment, from the points of view of art educators, art school alumni, and employers in art fields," and is intended to encourage regional studies for the advancement of standards among art schools, and to promote higher standards for professional art.

NEW CATALOGUES AVAILABLE

Any of the catalogues or folders described here may be obtained by forwarding your request as indicated in the coupon below to the office of the ARCHITECT & ENGINEER. *Merely mark the items you want and clip or paste the coupon to your letterhead.*

151. SCREENS FOR THE HOME FOLDER. A NEW four page color folder illustrates the most important types of all metal rewireable screens for home use. All types are custom made and are available with steel, bronze, aluminum or stainless steel frames in a welded construction. The folder has been released by the Watson Manufacturing Company, Inc. 4 pages illus. 22/50.

152. NURSES BEDSIDE CALL STATIONS. The Specialties Department of Cannon Electric has just issued a new and revised bulletin for hospital executives, architects on the Cannon Locking Pushbutton and related equipment used in Nurses' Call Bedside Stations. The folder contains a typical floor wiring and schematic wiring diagram, covering three pages in blue printing style. HLS-2, 6 pages illus. 3/50.

153. FIRESAFE CONSTRUCTION CATALOG. A new Milcor manual covering metal lath and accessories has just been released by the Inland Steel Products Company. The catalog is complete with construction details and fire resistance ratings of metal lath and plaster partitions including excellent details on partitions furring and fireproofing. A.I.A. 20-B-1, 48 pages illus. 1/50.

154. DOUGLAS FIR PLYWOODS. A booklet which is the 1950 basic Catalog for Douglas Fir Plywood giving the various plywood grades, uses in construction and plywood property information has been released. The booklet covers plywood con-

struction highlights fully ond has many fine details. 20 pages illus. 2/50.

155. BUILDING YOUR OWN FORMS. Now available from Symons Clamp & Mfg. Co. is a new bulletin giving full construction details for contractors interested in building their own forms, using the Symons Forming System. Specific information and table give complete, pertinent information on concrete pressure and what causes heavy pressure in concrete. The use of panel ties and walers is also explained in relation to concrete pressure. 4 pages illus. 2/50.

156. CORRECT USE OF PENTA. Pertinent information on the correct use of "penta" (pentachlorophenol) in protecting the wooden parts of buildings against decay, fungi, and termites is covered in an easy to read new booklet published by the Dow Chemical Company. 16 pages illus. 2/50.

157. THE FACTS OF LIFE FOR DRAFTSMEN. Your drafting room or engineering department will benefit from a new illustroted booklet, "The Facts of Life for Draftsmen." Written by commercial blue printers, it is designed to help you get better prints. Tips on paper and cloth, standardization of sizes, color, pencil and ink techniques and the use of reverse carbon paper are covered. This is a part of a long-range education program by the commerciol blue print industry to keep the quality of original drawings high. 4 poges illus. 3/50.

158. TRAFFIC FLOW PROBLEMS AND ELECTRIC STAIRWAYS. A booklet on the Who, Whot and How of Westinghouse Electric Stairways has recently been published by the Elevator Division of Westinghouse Electric Corporation. The "How" section tells the Architect and builder how Westinghouse Electric Stairways can be applied and how they can be incarporated in building designs and plans through engineering drawings. 48 pages illus. 3/50.

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I would like to have a copy of each of the New Catalogues I have circled.

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Please send to the address on my letterhead, or as I have indicated, and to my attention. (Please print your name—no literature will be sent on this coupon after (June 1st.—A. & E.)

NATIONAL APPRENTICE BRICKMASONRY CONTEST

Statewide bricklaying contests are being held throughout the nation this month to determine finalists for the Second Annual National Apprentice Brickmasonry Competition to be held in Philadelphia next month.

Winners of the competition will receive a national trophy and cash awards, in addition to having all of his expenses paid during the competition.

It is estimated some 7000 young apprentice brickmasons, many of them veterans, will compete in this year's events.

UNESCO SPEAKER AT SAN FRANCISCO

Dr. Walter Laves, deputy director general of UNESCO, was the principal speaker at a public gathering at the San Francisco Museum of Art on April 24th.

ASKS FOR SEPARATE CERTIFICATES

The Structural Engineers Association of California has asked the California State Board of Registration to issue separate certificates to holders of Structural Engineer licences.

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THornwall 4196

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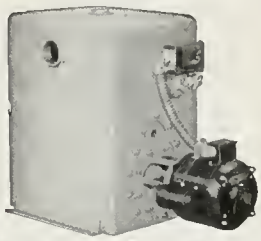

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A.I.A. ACTIVITIES

(From Page 29)

program is progressing with more than thirty applications already seeking participation.

* * *

As the 1949-50 Bowling Season draws to a close the team of W. H. Witt Company holds top position with Stevenson & Rubens and George W. Stoddard & Associates teams not far behind.

* * *

Members of the Chapter and Clergy will hold a "Conference on Church Architecture" on April 25th.

NEW MEMBERS: Chapter Associates include Benjamin F. McAdoo, Jr., Edward L. Cushman, Merrill S. Rich, Nathan Wilkinson, Jr., Hugo M. Bowe, Alfred F. Simonson, Lyle Swedberg. Corporate members are Tennys F. Bellamy, Arthur E. W. Dodds, Thomas A. Smith, and Harold W. Hall. Junior Associate members, James E. Hussey, and Joseph Greer, Jr., and the new Student Associates include Richard E. Schweisberger, Robert D. Theriault, John P. Kniskern, William H. Trogdon, Adolph C. Vigna, and Donald R. Westlin.

LONG BEACH AFFILIATE ELECTS

The architects of Long Beach, an affiliate of the Southern California Chapter of the A.I.A., recently elected the following officers to serve during 1950.

Louis S. Miller, president; Harvey Smith, vice president; William Lockett, secretary-treasurer, and George Montierth, James Friend and James Radcliffe, directors.

ARCHITECTS MEET AT YAKIMA

Formation of Central Washington Society as an affiliate of the Washington State Chapter of the American Institute of Architects was effected recently, when a group of architects from Seattle led by president Waldo B. Christenson met with architects of the Yakima area.

Meetings of the new group will be held bimonthly.

NORTHERN CALIFORNIA CHAPTER

The regular March meeting was held in San Francisco on March 28 with a general discussion of Chapter activities, including membership, and routine business matters.

Donald Beach Kirby presided and F. Bourn Hayne served as program chairman.

NEW SOUTHERN CALIFORNIA AFFILIATE

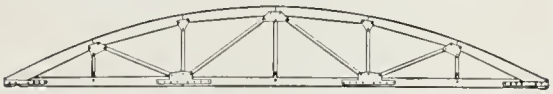
The architects of the San Fernando Valley in southern California have formed an architectural group affiliated with the Southern California Chapter.

Officers elected for the ensuing year include: Harry Miller, senior director and president; R. Stacy-Judd, director and vice president; Stanley Moe, junior director, and George Davis, secretary.

ARCHITECTS ARE REPRESENTED

Architect Paul Thiry of Seattle (Washington), and architects John Vogel and Floyd Jennings of the Seattle Planning Commission staff, are members of a Northwest Chapter of the American Institute of Planners recently formed which covers the states of Washington, Oregon, Idaho, Montana and the Territory of Alaska.

MONOCORD TIMBER TRUSSES



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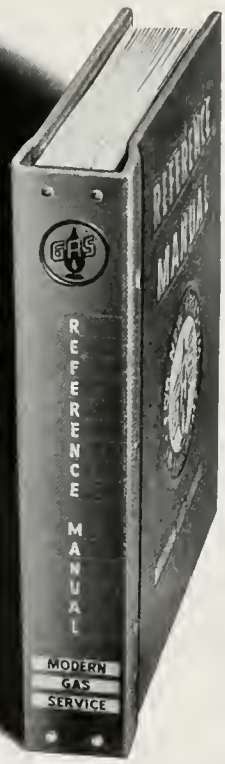

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ESTIMATOR'S GUIDE

BUILDING AND CONSTRUCTION MATERIALS

PRICES GIVEN ARE FIGURING PRICES AND ARE MADE UP FROM AVERAGE QUOTATIONS FURNISHED BY MATERIAL HOUSES TO SAN FRANCISCO CONTRACTORS. 3% SALES TAX ON ALL MATERIALS BUT NOT LABOR

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

BONDS—Performance or Performance plus Labor and Material Bond(s), $10 per $1000 on contract price. Labor & Material Bond(s) only, $5.00 per $1000 on contract price.

BRICKWORK—

Common Brick—Per 1M laid—$100.00 up (according to class of work).

Face Brick—Per 1M laid—$200.00 and up (according to class of work).

Brick Steps—$3.00 and up.

Common Brick Veneer on Frame Bldgs.—Approx. $1.20 and up—according to class of work).

Face Brick Veneer on Frame Bldgs.—Approx. $2.00 and up (according to class of work).

Common Brick—$33.00 per M—truckload lots, delivered.

Face Brick—$50.00 to $90.00 per M, truckload lots, delivered.

Fire Brick—Per M—$90.00 to $125.00.

Cartage—Approx. $9.00 per M.

Paving—$75.00.

BUILDING PAPER & FELTS

1 ply per 1000 ft. roll	$5.30
2 ply per 1000 ft. roll	7.80
3 ply per 1000 ft. roll	9 70
Brownskin, Standard 500 ft. roll	6.85
Sisalkraft, reinforced, 500 ft. roll	7.00
Sheathing Papers—	
Asphalt sheathing, 15-lb. roll	2.20
30-lb. roll	2.93
Campcourse, 216-ft. roll	2.95
Blue Plasterboard, 60-lb. roll	5.10
Felt Papers—	
Deadening felt, ¾-lb., 50-ft. roll	$3.13
Deadening felt, 1-lb.	3.69
Asphalt roofing, 15 lbs.	2.20
Asphalt roofing, 30 lbs.	2.93
Roofing Papers—	
Standard Grade, 108-ft. roll, Light	$1.75
Medium	2.04
Heavy	2.40
Extra Heavy	2.77

BUILDING HARDWARE—

Sash cord com. No. 7	$2.65 per 100 ft.
Sash cord com. No. 8	3.80 per 100 ft.
Sash cord spot No. 7	3.65 per 100 ft.
Sash cord spot No. 8	4.00 per 100 ft.
Sash weights, cast iron, $100.00 ton.	
1-Ton lots, per 100 lbs.	$3.75
Less than 1-ton lots, per 100 lbs.	$4.75
Nails, per keg, base	$10.55
8-in. spikes	10.55
Rim Knob lock sets	1.80
Butts, dull brass plated on steel, 3½x3½	.73

CONCRETE AGGREGATES—

The following prices net to Contractors unless otherwise shown. Carload lots only.

	Bunker per ton	Del'd per ton
Gravel, all sizes	$2.44	$2.90
Top Sand	2.38	3.13
Concrete Mix	2.38	3.06
Crushed Rock, ¼" to ¾"	2.38	2.90
Crushed Rock, ¾" to 1½"	2.38	2.90
Roofing Gravel	2.81	2.90
River Sand	2.50	3.00
Sand—		
Lapis (Nos. 2 & 4)	3.56	3.94
Olympia (Nos. 1 & 2)	3.56	3.88

Cement—

Common (all brands, paper sacks), carload lots, $3.38 per bbl. f.o.b. car; delivered $3.60.

Per Sack, small quantity (paper) $1.00

Carload lots, in bulk per bbl. 2.78

Cash discount on carload lots, 10c a bbl., 10th Prox., less than carload lots $4.00 per bbl. f.o.b. warehouse or delivered.

Cash discount 2% on L.C.L.

Trinity White, Medusa White: 1 to 100 sacks, $3.13 sack warehouse or del.; $9.56 bbl. carload lots.

CONCRETE READY-MIX—

1-2-4 mix, to 10 yards*	$11.75
10 to 100 yards*	10.75
Over 100 yards*	10.25

* Delivered to site.

CONCRETE BLOCKS—

	Haydite	Basalt
4x8x16-inches, each	$.16	$.16
6x8x16-inches, each	.21	.21
8x8x16-inches, each	.25	.25
12x8x16-inches, each	.33	
12x8x24-inches, each		.60

Haydite Aggregates—

¾-inch to ⅜-inch, per cu. yd.	$6.50
⅜-inch to ⅛-inch, per cu. yd.	6.50
⅛-inch to 0-inch, per cu. yd.	7.00

DAMPPROOFING and Waterproofing—

Two-coat work, $9.00 per square.

Membrane waterproofing—4 layers of saturated felt, $10.00 per square.

Hot coating work, $5.00 per square.

Medusa Waterproofing, $3.50 per lb. San Francisco Warehouse.

Tricosal concrete waterproofing. 50c a cubic yd. and up.

ELECTRIC WIRING—$15 to $20 per outlet for conduit work (including switches).

Knob and tube average $6.00 per outlet. (Available only for priority work.)

ELEVATORS—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing a slow speed automatic passenger elevator in small four story apartment building, including entrance doors, about $8000.00.

EXCAVATION—

Sand, $1.00; clay or shale, $1.50 per yard.

Trucks, $30 to $45 per day.

Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

FIRE ESCAPES—

Ten-foot galvanized iron balcony, with stairs, $250 installed on new buildings: $300 on old buildings.

FLOORS—

Composition Floors, such as Magnesite, 50c per square foot.

Linoflor—2 gages—$3.00 per sq. yd.

Mastipave—$1.50 per sq. yd.

Battleship Linoleum—⅛"—$3.50 sq. yd.; 5/32"—$3.50 sq. yd.

Terazzo Floors—$1.50 per sq. ft.

Terazzo Steps—$2.50 per lin. ft.

Mastic Wear Coat—according to type—20c to 35c.

Hardwood Flooring—

Standard Mill grades not available.

Victory Oak—T & G

25/32 x 2¼"	$252.00 per M. plus Cartage
½ x 2"	$210.00
½" x 1½"	200.00

Prefinished Standard & Better Oak Flooring

25/32 x 3¼"	$265.00 per M. plus Cartage
½ x 2½"	237.00 per M. plus Cartage

Maple Flooring

25/32" T & G Clear	$330.00 per M. plus Ctg.
2nd	305.00 per M. plus Ctg.
3rd	255.00 per M. plus Ctg.

Floor Layers' Wage, $2.35 hr. (Legal as of Nov. 1, 1949. Given us by Inlaid Floor Co.)

GLASS—

Single Strength Window Glass	$ .25 per □ ft.
Double Strength Window Glass	.35 per □ ft.
Plate Glass, under 75 sq. ft.	2.00 per □ ft.
¼ in. Polished Wire Plate Glass	1.00 per □ ft.
¼ in. Rgh. Wire Glass	.58 per □ ft.
Obscure Glass	.45 per □ ft.

Glazing of above is additional

Glass Blocks $2.75 per □ ft. set in place

HEATING—

Average, $2.50 to $3.00 per sq. ft. of radiation, according to conditions.

Warm air (gravity) average $64 per register.

Forced air average $91 per register.

INSULATION AND WALLBOARD—

Rockwool Insulation—
(2") ..... $65.00 per M sq. ft.
Cotton Insulation—Full-thickness
(3⅝") ..... $95.50 per M sq. ft.
Sisalation Aluminum Insulation—Aluminum coated on both sides ..... $23.50 per M sq. ft.
Tileboard—4'x6' panel ..... $9.00 per panel
Wallboard—½" thickness ..... $55.00 per M sq. ft.
Finished Plank ..... $69.00 per M sq. ft.
Ceiling Tileboard ..... $69.00 per M sq. ft.

IRON—Cost of ornamental iron, cast iron, etc., depends on designs.

LUMBER—

No. 1 Common ..... $85.00 per M
No. 2 Common ..... 83.00 per M
Select O. P. Common ..... 90.00 per M

Flooring—

	Per M Delvd.
V.G.-D.F. B & Btr. 1 x 4 T & G Flooring	$225.00
"C" and better—all	225.00
"D" and better—all	225.00
Rwd. Rustic—"A" grade, medium dry 6 to 24 ft.	185.00
"B" grade, medium dry	150.00
Plywood	18c to 20c per ft.
Plyscord	11½c per ft.
Plywall	9c per ft.
Plyform	15c per ft.

Shingles (Rwd. not available)—
Red Cedar No. 1—$9.50 per square; No. 2, $7.00; No. 3, $5.00.
Average cost to lay shingles, $6.00 per square.
Cedar Shakes—½" to ¾" x 24/26 in handsplit tapered or split resawn, per square $15.25
¾" to 1¼" x 24/26 in split resawn, per square 17.00
Average cost to lay shakes,— 8.00 per square

MARBLE—(See Dealers)

METAL LATH EXPANDED—

Standard Diamond, 3.44, Copper Bearing, per carloads, per 100 sq. yds. $35.50
Standard Ribbed, ditto 37.70

MILLWORK—Standard.

D. F. $150 per 1000. R. W. Rustic $175 per 1000 (delivered).
Double hung box window frames, average with trim, $12.50 and up, each.
Complete door unit, $15 to $25.
Screen doors, $8.00 to $12.00 each.
Patent screen windows, $1.25 a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., upper $9.00 to $11.00; lower $12.00 to $13.00.
Dining room cases, $20.00 per lineal foot. Rough and finish about $1.00 per sq. ft.
Labor—Rough carpentry, warehouse heavy framing (average), $75.00 per M.
For smaller work average, $85.00 to $100. per 1000.

PAINTING—

Two-coat work ..... per yard 85c
Three-coat work ..... per yard $1.10
Cold water painting ..... per yard 25c
Whitewashing ..... per yard 15c
Turpentine ..... $1.85 per gal. in 5-gal. cont.
Raw Linseed Oil ..... $3.33 per gal. in 5-gal. cont.
Boiled Linseed Oil ..... $3.23 per gal. in drums.
Boiled Linseed Oil—$3.33 per gal. in 5-gal. containers.
Replacement Oil—$2.75 per gal. in drums. $2.75 per gal. in 5-gal. containers.
Use Replacement Oil ..... $3.00 per gal. in 1 gal. cont.
A deposit of $7.50 required on all drums.

PATENT CHIMNEYS—

6-inch ..... $2.50 lineal foot
8-inch ..... 3.00 lineal foot
10-inch ..... 4.00 lineal foot
12-inch ..... 5.00 lineal foot

PLASTER—

Neat wall, per ton delivered in S. F. in paper bags, $17.60.

PLASTERING (Interior)—

	Yard
3 Coats, metal lath and plaster	$3.00
Keene cement on metal lath	3.50
Ceilings with ¾ hot roll channels metal lath (lathed only)	3.00
Seilings with ¾ hot roll channels metal lath plastered	4.50
Single partition ¾ channel lath 1 side (lath only	3.00
Single partition ¾ channel lath 2 inches thick plastered	8.00
4-inch double partition ¾ channel lath 2 sides (lath only)	5.75
4-inch double partition ¾ channel lath 2 sides plastered	8.75
Thermax single partition; 1" channels; 2¼" overall partition width. Plastered both sides	7.50
Thermax double partition; 1" channels; 4¾" overall partition width. Plastered both sides	11.00
3 Coats over 1" Thermax nailed to one side wood studs or joists	4.50
3 Coats over 1" Thermax suspended to one side wood studs with spring sound isolation clip	5.00

Note—Channel lath controlled by limitation orders.

PLASTERING (Exterior)—

	Yard
2 coats cement finish, brick or concrete wall	$2.50
3 coats cement finish, No. 18 gauge wire mesh	3.50

Lime—$4.00 per bbl. at yard.
Processed LLiLme—$4.15 per bbl. at yard.
Rock or Grip Lath—⅜"—30c per sq. yd.
½"—29c per sq. yd.

Composition Stucco—$4.00 sq. yard (applied).

PLUMBING—

From $200.00 per fixture up, according to grade, quality and runs.

ROOFING—

"Standard" tar and gravel, 4 ply—$11.00 per sq. for 30 sqs. or over.
Less than 30 sqs. $14.00 per sq.
Tile $40.00 to $50.00 per square.
No. 1 Redwood Cedar in place, 4½ in. exposure, per square $18.25
5/2 No. 1 Cedar Shingles, 5 in. exposure, per square 14.50
5/8 x 16"—No. 1 Little Giant Cedar Shingles, 5" exposure, per square .. 18.25
4/2 No. 1-24" Royal Cedar Shingles 7½" exposure, per square 23.00
Re-coat with Gravel **$5.50 per sq.**
Asbestos Shingles $35 to $45 per sq. laid.
½ to ¾ x 25" Resawn Cedar Shakes, 10" Exposure $24.00
¾ to 1¼ x 25" Resawn Cedar Shakes, 10" Exposure $29.00
1 x 25" Resawn Cedar Shakes, 10" Exposure 22.00
Above prices are for shakes in place.

SEWER PIPE—

C.I. 6-in. to 24-in. B. & S. Class B and heavier, per ton $99.50
Vitrified, per foot:
Standard, 8-in. ..... $ .62
Standard, 12-in. 1.09
Standard, 24-in. 4.72
Clay Drain Pipe, per 1,000 L.F. in carload lots:
Standard, 6-in. $211.00
Standard, 8-in. 352.00

SHEET METAL—

Windows—Metal, $2.50 a sq. ft.
Fire doors (average), including hardware $2.80 per sq. ft., size 12'x12'. $3.75 per sq. ft., size 3'x6'.

SKYLIGHTS—(not glazed)

Copper, $1.25 sq. ft. (flat).
Galvanized iron, 65c sq. ft. (flat).
Vented hip skylights, $1.50 sq. ft.

STEEL—STRUCTURAL—

$220 per ton erected, when out of mill.
$270 per ton erected, when out of stock.

STEEL REINFORCING—

$200.00 per ton, in place.

¼-in. Rd.	$7.15
⅜-in. Rd.	6.40
½-in. Rd.	6.20
⅝-in. Rd.	6.05
¾-in. & ⅞-in. Rd.	6.00
1-in. & up	5.95

STORE FRONTS (None available).

TILE—

Ceramic Tile Floors—Commercial $1.15 to $1.50.
Cove Base—$1.35 per lin. ft.
Tile Wainscot & Floors—Residential $1.50 to $1.75.
Tile Wainscot—Commercial $1.35 to $1.50.
Asphalt Tile Floor ⅛" x ⅓"—$ .40 per sq. ft
Light shades slightly higher.
Cork Tile—$1.00 per sq. ft.
Mosaic Floors—See dealers.
Lino-Tile—$1.00 per sq. ft

Wall Tile—
Glazed Terra Cotta Wall Units (single faced) laid in place—approximate prices:

2 x 6 x 12	$1.25 sq. ft.
4 x 6 x 12	1.50 sq. ft.
2 x 8 x 16	1.45 sq. ft.
4 x 8 x 16	1.75 sq. ft.

Building Tile—

8x5½x12-inches, per M	$139.50
6x5½x12-inches, per M	105.00
4x5½x12-inches, per M	84.00

Hollow Tile—

12x12x3-inches, per M	$124.00
12x12x4-inches, per M	139.50
12x12x0-inches, per M	176.00

VENETIAN BLINDS—

75c per square foot and up. Installation extra.

WINDOWS—STEEL—

60c per square foot, $5 for ventilators.

ESTIMATOR'S DIRECTORY

Building And Construction Materials

EXPLANATION—Building and construction materials are shown in major classified groups for general identification purposes with names and addresses of suppliers of materials listed in detail under group classification where name first appears—main offices are shown first, with branch or district offices following. The numeral appearing in listings refers to the major group classification where complete data on the dealer, or representative, may be found.

CKWORK (1)

Brick

LADDING, McBEAN & CO.
n Francisco: Harrison at 9th Sts., UN 1-7400
s Angeles: 2901 Los Feliz Blvd., OL 2121
ffices at Portland, Seattle, Spokane

AFTILE
les, California, Niles 3611
n Francisco 5: 50 Hawthorne St., DO 2-3780
s Angeles 13: 406 South Main St., MU 7241

MILLARD-DANDINI CO.
n Francisco: 400 Montgomery St., EX 2-4988

mic Veneer
CIFIC CLAY PRODUCTS
n Francisco: 605 Market St., GA 1-3970
s Angeles, Portland, Salt Lake City

DING PAPER & FELTS (2)

SALKRAFT COMPANY
n Francisco: 55 New Montgomery St., EX 2-3066
icago, Ill.: 205 West Wacker Drive

NGIER PACIFIC CORP.
n Francisco 5: 55 New Montgomery St., DO 2-4416
s Angeles: 7424 Sunset Boulevard

DING HARDWARE (3)

E STANLEY WORKS
n Francisco: Monadnock Bldg., YU 6-5914
w Britain, Conn.

ICRETE AGGREGATES (4)

ent

CIFIC PORTLAND CEMENT
n Francisco: 417 Montgomery St., GA 1-4100

weight Aggregates
MERICAN PERLITE CORP.
chmond, Calif.: 26th & B Sts.—Yard 2, RI 4307

ESCAPES (5)

OULE STEEL
n Francisco: 1750 Army St., VA 4-4141
s Angeles, Calif.—LA 0911
rtland, Ore.—BE 5155
attle, Wash.—SE 3010

CHEL & PFEFFER IRON WORKS, INC.
n Francisco 3: Tenth & Harrison Sts., MA 1-5966

FLOORS (6)

Hardwood Flooring

HOGAN LUMBER COMPANY
Oakland: Second and Alice Sts., GL 1-6861

E. K. WOOD LUMBER CO.
Los Angeles: 4710 S. Alameda St., JE 3111
Oakland: 727 Kennedy St., KE 4-8466
Portland: 827 Terminal Sales Building

GLASS (7)

W. P. FULLER COMPANY
San Francisco: 301 Mission St., EX 2-7151
Los Angeles, Calif.
Portland, Oregon

HEATING (8)

HENDERSON FURNACE & MFG. CO.
Sebastopol, Calif.

S. T. JOHNSON CO.
Oakland 8: 940 Arlington Ave., OL 2-6000
San Francisco: 585 Potrero Ave., MA 1-2757
Philadelphia 8, Pa.: 401 No. Broad St.

SCOTT COMPANY
San Francisco: 243 Minna St., YU 2-0400
Oakland: 113 - 10th St., GL 1-1937
San Jose, Calif.
Los Angeles, Calif.

THOMAS B. HUNTER (Designer)
San Francisco: 41 Sutter St., GA 1-1164

INSULATION AND WALLBOARD (9)

LUMBER MANUFACTURING CO.
San Francisco: 225 Industrial Ave., JU 7-1760

SISALKRAFT COMPANY *(2)

WESTERN ASBESTOS COMPANY
San Francisco: 675 Townsend St., KL 2-3868
Oakland: 251 Fifth Avenue, GL 1-2345
Sacramento: 1224 I Street, 2-8993
Stockton: 1120 E. Weber Ave., 4-1863
Fresno: 1837 Merced Street, 3-3277
San Jose: 201 So. Market St., BA 4359-J

IRON—Ornamental (10)

MICHEL & PFEFFER IRON WORKS, INC. *(5)

LIGHTING FIXTURES (11)

SMOOT-HOLMAN COMPANY
San Francisco: 55 Mississippi St., MA 1-8474

LUMBER (12)

HOGAN LUMBER COMPANY *(6)
LUMBER MANUFACTURING CO. *(9)
E. K. WOOD LUMBER CO *(6)

Shingles

SIDEWALL LUMBER COMPANY
San Francisco 24: 1995 Oakdale Ave., AT 2-8112

MARBLE (13)

VERMONT MARBLE COMPANY
San Francisco: 525 Market St., SU 1-6747
Los Angeles 4: 3522 Council St., FA 7834

METAL LATH EXPANDED (14)

FORDERER CORNICE WORKS
San Francisco: 269 Potrero Ave., HE 1-4100

SOULE STEEL *(5)

MILLWORK (15)

PACIFIC MANUFACTURING COMPANY
San Francisco: 16 Beale St., GA 1-7755
Santa Clara: 2610 The Alameda, SC 607
Los Angeles: 6820 McKinley Ave., TH 4196

MULLEN MANUFACTURING COMPANY
San Francisco: 60-80 Rausch St., UN 1-5815

LUMBER MANUFACTURING COMPANY *(9)

PAINTING (16)

THE TORMEY COMPANY
San Francisco: 563 Fulton St., UN 1-1913

Paint

W. P. FULLER COMPANY *(7)

Wood Preservatives

GUNN CARLE & COMPANY
San Francisco: 20 Potrero Ave., UN 1-5480

PLASTER (17)

Exteriors

PACIFIC PORTLAND CEMENT COMPANY*(4)

Interiors—Metal Lath & Trim

FORDERER CORNICE WORKS *(14)

PLUMBING (18)

THE SCOTT COMPANY *(8)

THE HALSEY TAYLOR COMPANY
Redlands, Calif.
Warren, Ohio

HAWS DRINKING FAUCET COMPANY
Berkeley 10: 1435 Fourth St., LA 5-3341

CONTINENTAL WATER HEATER COMPANY
Los Angeles 31: 1801 Pasadena Ave., CA 6178

SIMONDS MACHINERY COMPANY
San Francisco: 816 Folsom St., DO 2-6794
Los Angeles: 455 East 4th St., MU 8322

SECURITY VALVE COMPANY
Los Angeles 31: 410 San Fernando Road, CA 6191

SEWER PIPE (19)

GLADDING, McBEAN & CO. *(1)

SHEET METAL (20)

Windows

DETROIT STEEL PRODUCTS COMPANY
Oakland 8: 1310 - 63rd St., OL 2-8826
San Francisco: Russ Building, DO 2-0890

MICHEL & PFEFFER IRON WORKS, INC. *(5)

SOULE STEEL COMPANY *(5)

Fire Doors

DETROIT STEEL PRODUCTS COMPANY

Skylights

DETROIT STEEL PRODUCTS COMPANY

STEEL—STRUCTURAL (21)

HERRICK IRON WORKS
Oakland: 18th & Campbell Sts., GL 1-1767

JUDSON PACIFIC-MURPHY CORP.
Emeryville: 4300 Eastshore Highway, OL 3-1717

REPUBLIC STEEL CORP.
San Francisco: 116 N. Montgomery St., GA 1-0977
Los Angeles: Edison Building
Seattle: White-Henry-Stuart Building
Salt Lake City: Walker Bank Building
Denver: Continental Oil Building

KRAFTILE COMPANY *(1)

SAN JOSE STEEL COMPANY
San Jose: 195 North Thirtieth St., CO 4184

STEEL—REINFORCING (22)

REPUBLIC STEEL CORP. *(21)

HERRICK IORN WORKS *(21)

SAN JOSE STEEL CO. *(21)

TILE (23)

GLADDING, McBEAN & CO. *(1)

KRAFTILE COMPANY *(1)

WALL TILE (24)

GLADDING, McBEAN & CO. *(1)

KRAFTILE COMPANY *(1)

WINDOWS STEEL (25)

DETROIT STEEL PRODUCTS CO. *(20)

MICHEL & PFEFFER IRON WORKS, INC. *(5)

SOULE STEEL COMPANY *(5)

GENERAL CONTRACTORS (26)

DINWIDDIE CONSTRUCTION COMPAN
San Francisco: Crocker Building, YU 6-2711

CLINTON CONSTRUCTION COMPANY
San Francisco: 923 Folsom St., SU 1-3440

MATTOCK CONSTRUCTION COMPANY
San Francisco: 604 Mission St., GA 1-5516

STOLTE, INC.
Oakland: 8451 San Leandro Blvd., TR 2-106

SWINERTON & WALBERG COMPANY
San Francisco: 225 Bush St., GA 1-2980
Oakland: 1723 Webster St., HI 4-4322
Los Angeles, Sacramento, Denver

P. J. WALKER COMPANY
San Francisco: 391 Sutter St., YU 6-5916
Los Angeles: 3920 Whiteside St., AN 9-856

TESTING LABORATORIES (ENGINEERS & CHEMISTS) (27)

ABBOT A. HANKS, INC.
San Francisco: 624 Sacramento St., GA 1-1(

ROBERT W. HUNT COMPANY
San Francisco: 251 Kearny St., EX 2-4634
Los Angeles: 3050 E. Slauson, JE 9131
Chicago, New York, Pittsburgh

PITTSBURGH TESTING LABORATORY
San Francisco: 651 Howard St., EX 2-1747

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ATTENTION: The following are the PREVAILING hourly rates of compensation being paid and in effect by employers by agreement between employees and their union; or as recognized and determined by the U. S. Department of Labor. (Revised to Sept. 1, 1949.)

CRAFT	San Francisco	Alameda	Contra Costa	Fresno	Sacramento	Santa Clara	Solano	Stockton	Los Angeles	San Bernardino	San Diego	Santa Barbara	Kern
ASBESTOS WORKERS	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.25	$2.25	$2.25	$2.25	$2.25
BRICKLAYERS	3.00*	3.00	3.00	2.50	3.00	3.00	3.00	2.05*	2.265	2.50	2.50	2.625	2.50
BRICKLAYERS, HODCARRIERS	2.25	2.25	2.25	2.00	2.00	1.75	2.25	1.60*	1.75	1.75	1.75	1.75	1.75
CARPENTERS	2.16	2.16	2.175	2.175	2.175	2.175	2.175	2.175	2.12	2.12	2.12	2.12	2.12
CEMENT FINISHERS	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20
ELECTRICIANS	2.50	2.50	2.50	2.25	2.50	2.50	2.40	2.40	2.40	2.40	2.375	2.40	2.15
ELEVATOR CONSTRUCTORS	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.25	2.25	2.25	2.25	2.25
ENGINEERS: MATERIAL HOIST	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	1.9875	1.9875	1.9875	1.9875	1.9875
PILE DRIVER	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.32	2.32	2.32	2.32	2.32
STRUCTURAL STEEL	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.30	2.30	2.2375	2.30	2.30
GLAZIERS	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.96
IRONWORKERS: ORNAMENTAL	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.175	2.175	2.1125	2.175	2.175
REINF. RODMEN	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.20	2.20	2.20	2.20	2.20
STRUCTURAL	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.30	2.30	2.2375	2.30	2.30
LABORERS: BUILDING	1.55	1.55	1.55	1.45	1.55	1.45	1.55	1.55	1.57	1.57	1.57	1.57	1.57
CONCRETE	1.55	1.55	1.55	1.45	1.55	1.45	1.55	1.55	1.57	1.57	1.57	1.57	1.57
LATHERS	2.8125	2.8125	2.8125	2.8125	2.00*	2.50*	2.8125	2.8125	2.50	2.50	2.50	2.50	2.50
MARBLE SETTERS	2.375	2.375	2.375	2.375	2.375	2.375	2.375	2.375	2.25	2.25	2.25	2.25	2.25
MOSAIC & TERRAZZO	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.40	2.40	2.20	2.40	2.40
PAINTERS	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.00	1.90	2.10	2.18	2.25
PILEDRIVERS	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25
PLASTERERS	2.8125	2.50*	2.50*	2.25*	2.25*	2.50*	2.50*	2.8125	2.50	2.75	2.50	2.50	2.50
PLASTERERS, HODCARRIERS	2.50	2.25*	2.25*	1.775*	2.00*	2.00*	2.25*	2.16	2.15	2.25	2.30	2.00	2.00
PLUMBERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
ROOFERS	2.25	2.25	2.25	1.875	2.00	2.00	2.16	2.25	2.25	2.00	1.90	2.00	2.00
SHEET METAL WORKERS	2.25	2.25	2.25	2.125	2.30	2.40	2.125	2.125	2.15	2.15	2.175	2.00	2.15
SPRINKLER FITTERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.25	2.25	2.25	2.25	2.25
STEAMFITTERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
STONESETTERS (MASONS)	3.00	2.8125	2.8125	2.25*	2.8125	2.8125	2.8125	2.05*	1.50	1.50	1.50	2.625	1.715
TILESETTERS	2.675	2.675	2.675	2.15	2.00	2.675	2.675	2.4375	2.50	2.50	2.20	2.50	2.25

* 6 Hour Day. ** 7 Hour Day.

Prepared and compiled by:
CENTRAL CALIFORNIA CHAPTER, ASSOCIATED GENERAL CONTRACTORS OF AMERICA, with the assistance and cooperation of secretaries of General Contractors Associations and Builders Exchanges of Northern California; and the above information for southern California is furnished by the Labor Relations Department of the Southern California Chapter, ASSOCIATED GENERAL CONTRACTORS OF AMERICA.

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THE CONNECTICUT EXPERIMENT

(From Page 12)

The Edward J. Bulgers of Stamford, first family to obtain its own home through the Connecticut Home Ownership Program, moved into a four-room Cape Cod cottage last week. Their house cost $8520, has a cellar and space for two more rooms on the second floor. Because Bulger is a veteran, he obtained a GI-guaranteed second mortgage in addition to his FHA-insured first mortgage and made no cash downpayments. His monthly payments for interest and amortization will be $41.15. He has two sons.

A second house in the same Stamford development, at the same price, has been purchased under the Home Ownership Program by Theodore Dziuba, a non-veteran. He made a cash downpayment of $1,520, and his monthly interest and amortization payments will be $31.81. The Dziubas have three children.

To be certified as eligible for a state mortgage loan, a family must have a total gross yearly income of not more than $2500, plus $600 for each dependent, a net cash worth of not more than $3,000, and be inadequately housed at present.

After receiving a certificate of eligibility, the family starts negotiating with a builder and with the state loan correspondent who will process his mortgage. The family's financial standing and the house they want to buy must be approved by FHA and, in case of veterans seeking a GI second mortgage, by VA as well.

So far, 6700 persons have applied for certificates of eligibility, and more than 5400 certificates have been issued.

To qualify for housing in one of the state financed moderate rental housing projects, the family must have a gross yearly income of not more than six times the shelter rent, plus $300 for each dependent. State-average for shelter rents are: one-bedroom units, $40.48; Two bedrooms, $43.12; three-bedrooms, $47.26; and four-bedrooms, $48. These averages are less than half the shelter rents being charged for similar new housing. Rents paid are sufficient to cover interest and amortization of state loans and full maintenance of the project.

The bulk of families qualifying for state mortgage loans and for rents in the moderate rental projects have incomes near $3,000 a year. "These middle-income families' housing needs have not been met by federal housing nor by building with private financing," the Governor pointed out. "In helping to meet the needs of this large group of middle-income families, we feel we are making a real contribution to good housing for all of our families."

NEW RESIDENTIAL DEVELOPMENT

The Horgan Inc. Company of Oakland (California) has started work on the construction of 45 residences in the Gregory Garden section of Pleasant Hills, Contra Costa County.

Estimated cost of the houses is $7,320 each.

FIFTY NEW DWELLINGS BEGUN

The Decker Construction Company of Phoenix (Ariz.) has started construction of 50 houses in the new Casa Linda subdivision at Blythe, California. Homes will be of stucco construction and contain two bedrooms.

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CONSTRUCTION CONTRACTS AWARDED AND MISCELLANEOUS PERSONNEL DATA

BOYS GYMNASIUM BUILDING, Exeter, Tulare Co.: Exeter Union High School District, owner; $176,900. ARCHITECT: E. L. McCoy, Bakersfield. GENERAL CONTRACTOR: Trewhitt, Shields & Fisher, Fresno.

AIRPORT ADMINISTRATION BUILDING, Crescent City, Del Norte Co.: County of Del Norte, owner; $32,482. ARCHITECT: Martin A. Sheldon, San Francisco; 1 story, 30x70, concrete block and frame construction. GENERAL CONTRACTOR, Osborne & Wheelon Construction Co., Crescent City.

GRAMMAR SCHOOL, Salida, San Joaquin Co.; Stanislaus Union Elementary School District, owner; 5 classrooms, offices and toilet rooms, $89,000. ARCHITECT: Mayo & Johnson, Stockton; frame and stucco construction. GENERAL CONTRACTOR: Elmer H. Dolan, Stockton.

GARAGE BUILDING, Redding, Shasta Co.; Coca Cola Bottling Co., owner; $75,000. ARCHITECT: Albert F. Roller, San Francisco; 1 story, reinforced concrete and frame construction, structural steel roof trusses. GENERAL CONTRACTOR: Ira H. Larsen, San Francisco.

HIGH SCHOOL BUILDINGS, Winters, Yolo Co.; Winters Joint Union High School District, owner; 8 classrooms, offices and shop building and toilet room, $219,019. ARCHITECT: Chas. F. Dean, Sacramento; reinforced concrete and frame and stucco construction. GENERAL CONTRACTOR: J. A. Bryant, Vallejo.

RECTORY, San Francisco; Roman Catholic Archbishop of San Francisco, owner; $67,000. ARCHITECT Wm. F. Schirmer, Oakland; 2 story, frame and stucco construction. GENERAL CONTRACTOR: Cahill Bros., San Francisco.

OFFICE & CEMENT STORAGE BUILDING, San Francisco: Eaton & Smith, owner; $53,155. ARCHITECT: Wilton Smith; 2 story, frame construction. GENERAL CONTRACTOR: Robert McCorthy Co., San Francisco.

YOUTH GUIDANCE CENTER ADDITION, San Francisco: City & County of San Francisco, owner; classrooms, shop building, gymnasium, chapel and cottages. ARCHITECT: Wm. G. Merchant, San Francisco; reinforced concrete construction. GENERAL CONTRACTOR: Monson Bros. ELECTRIC WORK: H. S. Tittle Co., San Francisco.

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PLUMBING & HEATING CONTRACTOR: Anderson & Rowe, San Francisco.

STORE BUILDING, San Anselmo, Marin Co.: Ernest Ongaro, owner; 8 stores, $100,000. ENGINEER: Albert Siemer, San Anselmo; 1 story frame and stucco construction, plate glass front. GENERAL CONTRACTOR: Chos. E. Warner, San Rafael.

TIRE SALES & SERVICE BUILDING, Sacrament, Sacramento Co.: Earl D. Desmond, owner; $48,000. STRUCTURAL ENGINEER: J. V. Long, Oakland; 1 story, concrete block and frame and stucco construction. GENERAL CONTRACTOR: Jos. L. Binet, Sacramento.

THOMAS JEFFERSON SCHOOL ADDN., PRIMARY SCHOOL ADDITION, Wasco, Kern Co.: Wasco Union Elementary School District, owner; 10 classrooms and toilet room, 4 classmoors, 2 kindergartens, toilet room, $204,356. ARCHITECT: C. B. Alford & W. J. Thomas, Bakersfield; frame and stucco construction. GENERAL CONTRACTOR: Ashby & Oppermon, Bakersfield.

STORE BUILDING, Oakland, Alameda Co.: Volunteers of America, owner; $116,000. ENGINEER: V. L. Hansen, Oakland. GENERAL CONTRACTOR: Pacific Enterprises, Oakland.

FIRE HOUSE BUILDING, San Jose, Santa Clara Co.: City of San Jose, owner; $159,559. ARCHITECT: Binder & Curtis; 2 story, reinforced concrete and structural steel construction. GENERAL CONTRACTOR: Bridges Construction Co.

HEALTH CENTER BUILDING, Auburn, Placer Co.: County of Placer, owner; $41,629. ARCHITECT: Raymond R. Franceschi, Sacramento; 1 story, frame and stucco construction. GENERAL CONTRACTOR: James P. Morton, Placerville.

RESIDENCE, Berkeley, Alameda Co.: O. L. Pringle, owner; $42,982. ARCHITECT: J. K. Ballantine, Berkeley. GENERAL CONTRACTOR: Harold L. Paige, Oakland.

APARTMENT BUILDING, San Francisco: M. Desiano, owner; $90,000. ARCHITECT: H. C. Baumann, San Francisco; 3 story, 24 apartments.

WOODSTOCK GRAMMAR SCHOOL, Alameda, Alameda Co.: Alameda Board of Education, owner; 20 classrooms, 2 kindergartens, offices and toilet rooms, $390,700. ARCHITECT: Kent & Hass, San Francisco; frame and stucco construction. GENERAL CONTRACTOR: Pacific Coast Builders, San Francisco.

COUNTY HOSPITAL ADDITION, Sacramento, Sacramento Co.: County of Sacramento, owner; 416 beds, $1,318,915. ARCHITECT: Geo. C. Sellon, Sacramento; 2 new 6 story wings and 4 story addition to present building, reinforced concrete construction. GENERAL CONTRACTOR: Lawrence Construction Co. & Edwin J. Mackey, Sacramento.

RESIDENCE, Piedmont, Alameda Co.: Mr. Taylor, owner; $26,731. ARCHITECT: Harry A. Bruno, Oakland; 1 story frame construction, redwood exterior, shake roof. GENERAL CONTRACTOR: Von Guenther & Radonich, Orinda.

WAREHOUSE ADDITION, Oakland, Alameda Co.: Cobbledick-Kibbe Glass Co, owner; $74,500. STRUCTURAL ENGINEER: R. A. McGuire, Berkeley; 1 story, 125x200, concrete block, structural steel and wood roof. GENERAL CONTRACTOR: C. H. Thrams, Oakland.

CANNERY BUILDING, Santa Clara, Santa Clara Co.: Diana Fruit Preserving Co., owner; $33,125. ARCHITECT: L. F. Richards, Santa Clara; 1 story, 60x140, reinforced concrete construction, wood roof trusses, frame and stucco office building. GENERAL CONTRACTOR: Pasetta Construction Co., Santa Clara.

STORE BUILDING, Burlingame, San Mateo Co.: C. H. Bassett, owner; $26,000. ARCHITECT: Otto Hintermann, San Mateo; 1 story, concrete block and frame construction, plate glass front.

STORE AND OFFICE BUILDING, Belmont, San Mateo Co.: Mrs. Alford, owner; $48,670. STRUCTURAL ENGINEER: Robt. D. Dalton, Oakland: 1 and part 2 story. 90x70 frame and stucco construction. GENERAL CONTRACTOR: C. H. Bessett, Burlingame.

PROFESSIONAL BUILDING, Mt. View, Santa Clara Co.: J. M. Atkinson, owner; 5 suites of offices, $29,000. ARCHITECT: Lawrence W. Gentry, Los Altos; 1 story, concrete block and frame construction, 3,800 sq. ft. radiant heating, asphalt tile floors. GENERAL CONTRACTOR: Oscar Liebert, Sunnyvale.

GRAMMAR SCHOOL, Gonzales, Monterey Co.: Gonzales Elementary School District, owner; 2 classrooms, 2 kindergartens, and Cafeteria building, toilet rooms, $121,428. ARCHITECT: Wm. H. Rowe, San Francisco; frame and stucco construction. GENERAL CONTRACTOR: Vern R. Huck, Salinas.

DAVID AVENUE GRAMMAR SHOOL, Pacific Grove, Monterey Co.: Pacific Grove Elementary School District, owner; 7 classrooms, kindergarten, office and toilet rooms, $147,880. ARCHITECT: Robert Stanton, Carmel; frame and stucco construction. GENERAL CONTRACTOR: Lembke Construction Co., Los Vegas.

MONTE VISTA GRAMMAR SCHOOL, Monterey Co.: Monterey Elementary School District, owner; 9 classrooms, kindergarten, offices and toilet rooms, $216,738. ARCHITECT: Robert Stanton, Carmel, frame and stucco construction.

ST. CYRIL PAROCHIAL SCHOOL ADDITION, Oakland, Alameda Co.: Roman Catholic Archbishop of San Francisco, owner; chapel and rectory, $292,668. ARCHITECT: Blanchard & Maher, San Francisco; Chapel: reinforced concrete construction. Rectory: frame and stucco construction. GENERAL CONTRACTOR: Pacific Coast Builders, San Francisco.

ROCHE AVENUE GRAMMAR SCHOOL, Porterville, Tulare Co.: Porterville Elementary School District, owner; 8 classrooms, kindergarten, offices and toilet rooms, $127,350. ARCHITECT: Robert C. Kaestner, Visalia; frame and stucco construction. GENERAL CONTRACTOR: Guy L. Munson, Dinuba.

SANTIAGO HOME SCHOOL UNIT, San Francisco: City and County of San Francisco, owner; 6 classrooms, 2 kindergartens, offices, cafeteria and toilet rooms. $232,176. ARCHITECT: Clark & Beutler, San Francisco; 1 story, reinforced concrete construction. GENERAL CONTRACTOR: Joe. L. Barnes, San Francisco. PLUMBING & HEATING CONTRACTOR: Jack Rosen, San Francisco. ELECTRICAL CONTRACTOR: Decker Electric Construction Co., San Francisco.

ANELLI GRAMMAR SCHOOL. DURAN RAMMAR SCHOOL, Visalia, Tulare Co.: isalia Elementary School District, owner; 432,780. ARCHITECT: David Horn & Marhall Mortland, Fresno; frame and stucco onstruction. GENERAL CONTRACTOR: ppenheim & King, Fresno.

RT BUILDING. Kentfield, Marin Co.: Marin . College District, owner; $351,947. ARCHIECT: Arnold Constable, Sausalito; 2 story nd bosement, reinforced concrete conruction, tile roof. GENERAL CONTRACOR: B. & R. Construction Co., San Franisco.

TORE BUILDING REMODEL, Fresno, Fres- Co.: Cory Estate, owner; $100,000. RCHITECT: Wm. Hastrup, Fresno; interr and exterior remodel, stainless steel indow sash, new marquee. GENERAL ONTRACTOR: Harris Construction Co., esno.

TORE & OFFICE BUILDING. San Jose, San- Clara Co.: Walter D. Haugh, owner; 35,000. DRAFTSMAN: Vern Cornish, San se; 2 story reinforced concrete and frame onstruction. GENERAL CONTRACTOR: M. '. Reese, San Jose.

ELLE HAVEN SCHOOL ADDITION. Belle, aven; Ravenswood Elementary School istrict, owner; 9 classrooms and kinderarten, $110,426. ARCHITECT: Arthur D. nssen, Atherton; frome ond stucco conruction. GENERAL CONTRACTOR: S & Construction Co., San Francisco.

RUG STORE & DENTIST OFFICE, Modesto, anislaus Co.: ARCHITECT: John W. Bomerger, Modesto; $38,787. GENERAL CONRACTOR: Sauerwein & Thompson, Modes-

EW GRAMMAR SCHOOL, Sonoma, Sono- a Co.: Sonoma Elementary School District, wner; 12 classrooms, kindergarten, office nd toilet rooms, $184,980. ARCHITECT: ario J. Ciampi, San Francisco; frame and ucco construction. GENERAL CONTRACOR: Walter L. Olsen, Santa Rosa.

T. ANTHONY PAROCHIAL SCHOOL, San rancisco: Roman Catholic Archbishop of an Francisco, owner; 9 classrooms, auditoum and cafeteria, $187,387. ARCHITECT: incent Buckley, San Francisco; 2 story and asement, reinforced concrete construction. ENERAL CONTRACTOR: Barrett and Hilp, an Francisco.

HURCH & SUNDAY SCHOOL, Bakersfield, ern Co.: St. Johns Lutheran Church, owner; 100,000. ARCHITECT: O. J. Bruer, Montello; 1 story, 9,000 sq. ft., frame and stucco, e roof, steel sash, radiont heating. GENRAL CONTRACTOR: J. N. Harvey, Bakersld.

TORE & OFFICE BUILDING. Son Francis- : A. & A. Torre, owner; $72,500. ENGIEER: E. F. McKeon; 2 story, frome and ucco construction. GENERAL CONTRACOR: B. L. Guisto, San Francisco.

YMNASIUM BUILDING. Big Creek, Fresno o.: Big Creek Elementary School District, wner; $293,000. ARCHITECT: W. D. Coates Maurice J. Metz, Fresno; structural steel nd frame and stucco construction. GENRAL CONTRACTOR: Trewhitt, Shields and isher, Fresno.

ALO ALTO, Santa Clara Co.: Waverly hops Bldg., Inc., owner; $56,845. ARCHIECT: Cornelius V. Howry, San Francisco; story, reinforced, concrete and frame conruction, some structural steel, brick, stone nd plate glass fronts. GENERAL CONRACTOR: Howard J. White, Palo Alto.

AROCHIAL SCHOOL & CONVENT, Los anos, Merced Co.: Roman Catholic Bishop, resno-Monterey Diocese, owner; 5 classrooms, $90,000. ARCHITECT: Chas. E. Butner; frame and stucco construction. GENERAL CONTRACTOR: T. Falasco, Los Banos.

THEATER BUILDING, Healdsburg, Sonoma Co.: Redwood Theater Co., owner; 700 seats and 1 store, $75,000. DESIGNER: Gale Santocono, San Francisco. STRUCTURAL ENGINEER: Edmund P. Burke, San Francisco; reinforced concrete and structural steel roof trusses. GENERAL CONTRACTOR: A. J. Hooper Co., San Francisco.

CHURCH & SUNDAY SCHOOL & RECREATION BUILDING. Salinas, Monterey Co.: Presbyterian Church, owner; $300,000. ARCHITECT: Chas E. Butner, Salinas; reinforced concrete, structural steel and brick veneer, tile roof, asphalt tile floors, steel sash, art glass windows and radiant heating. GENERAL CONTRACTOR: Axel F. Carlsen & Alfred H. Juncker, Salinas.

STORE BUILDING. Modesto, Stanislaus Co.: Lee's Store, owner; $99,363. ARCHITECT: Russell G. DeLappe, Berkeley; 1 story, basement and mezzanine, 60x100, reinforced concrete and frame construction. GENERAL CONTRACTOR: Acme Construction Co., Modesto.

SAN JOSE, Santa Clara County. Jewelry store remodel. W. C. Loan, owner. $50,000. ARCHITECT: Kress & Gibson, San Jose. Interior and exterior remodel, marble and plate glass front. GENERAL CONTRACTOR: Bridges Construction Co., San Jose.

SAN FRANCISCO. Office building. California Pacific Title & Trust Co., owner. $45,000. ENGINEER: H. M. Engle, San Francisco. Two story, Class 3. GENERAL CONTRACTOR: Jacks & Irvine, San Francisco.

OROVILLE, Butte County, new juvenile home. County of Butte, owner. $78,000. ARCHITECT: E. Geoffrey Bangs, San Francisco. Reinforced concrete construction. GENERAL CONTRACTOR: Frank C. Brunelli Co., San Francisco.

CONCORD, Contra Costa County. Store building. C. Garibotti, owner. 5 stores. $61,570. ARCHITECT: Herbert V. Brooke, Walnut Creek. 1 story and mezzanine, 80x125, reinforced concrete and concrete block. GENERAL CONTRACTOR: Burton & Burton, Concord.

YOSEMITE NATIONAL PARK, Mariposa County. Guest house building. Yosemite Park & Curry Co., owner. 28 rooms, 4 dormitories, $151,135. ARCHITECT: Eldridge T. Spencer & Wm. C. Ambrose, San Francisco. 1 and 2 story, frame construction, rustic exterior, concrete floor slab. GENERAL CONTRACTOR: Chas. Stockholm & Son, San Francisco.

SANTA ROSA, Sonoma County. Steele Lane grammar school. Santa Rosa Board of Education, owner. 8 classrooms, kindergarten, offices & toilet rooms, $151,766. ARCHITECT: J. Clarence Felciano, Santa Rosa. Frame and stucco construction, concrete floor, radiant heating. GENERAL CONTRACTOR: Younger & Hallsteen, San Francisco.

CORTE MADERA. Marin County. Apartment building. Fred C. Shumaker, owner. 8 apartments. $57,000. ARCHITECT: Harold G. Stoner, San Rafael. 1 story, reinforced concrete and frame and stucco construction. GENERAL CONTRACTOR: J. D. O'Connor Construction Co., San Anselmo.

Why even small homes need concealed telephone wiring

Home owners appreciate extra conveniences – in small homes as well as large. And that usually means built-in conduit and extra telephone outlets. They may be located in the bedroom, living room, kitchen–wherever the user will spend a lot of time...now and in the future.

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IN THE NEWS

APPOINTED TO TILE COUNCIL

A. T. Wintersgill, vice president of Pacific Clay Products Company, Los Angeles, has been reappointed chairman of the Tile Council of America's residential construction committee for 1950.

Wintersgill has been active in Council affairs since 1947.

APPOINTED NEW GENERAL MANAGER

H. H. Morgan, vice president and chief engineer of the Robert W. Hunt Company Engineers, Chicago, has been appointed general manager of the firm, according to a recent announcement.

FORMS NEW DOOR FIRM

Norman O. Cruver, of the Cruver-O'Neil Sales Company, Tacoma, recently announced the formation of the Cruver-Langhardt Door Company with headquarters in Tacoma.

The new firm incorporates the Langhardt Sash & Door Company which has been in operation at Anacortes for many years, under the management of A. J. Langhardt.

WESTERN ASBESTOS COMPANY APPOINTED FLOORING AGENT

The Western Asbestos Supply Company has been appointed distributor in northern California and western Nevada for the Hood Rubber Tile Flooring product of the Hood Rubber Company, according to an announcement by Clarke E. Wayland, Vice president of Western Asbestos Supply Company.

The line includes rubber tile in various colors, thicknesses and sizes, molded cove base and corners, moulded stair treads, thresholds, and kneeling pads.

AIR CONDITIONING CONTRACTORS CONVENTION SET FOR CALIFORNIA

Daniel Hayes of San Francisco, general chairman and former national president of the Heating, Piping and Air Conditioning Contractors National Association, has announced that the 61st annual convention of the group will be held in San Francisco on May 8-11.

It is estimated that some 600 delegates from all parts of the nation will attend.

THE NEW MORRISON'S CARRY-ALL TRAILETTE

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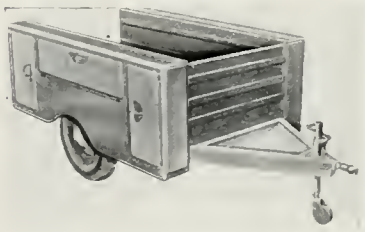
The new Morrison Carry-All Trailette is unique as a one man hitch-all, two wheel, all-purpose "take-it-or-leave-it" trailer. It hitches to any light truck or passenger car standard bumper.



It is equipped with all-car hitch, support jack, wheels, tires, tubes, lights, semi-eliptical springs and a torque-less axle. Two sizes are available, 91 5/16 in. long and 75 in. long.

Complete information on the multiple uses of the Trailette is available free from the Morrison Steel Products, Inc., Buffalo, New York.

HIGH SCHOOL BONDS VOTED

Voters of the San Juan Union High School District at Fair Oaks (Sacramento County) recently approved a $272,000 bond issue for the purpose of building a classroom addition to the Fair Oaks High School.

Chas. F. Dean, Sacramento, is the architect.

NEW GRAMMAR SCHOOL BUILDING

A new Grammar School Building will be built in Livermore (California) consisting of 12-classrooms, kindergarten, offices, cafeteria, library and toilet rooms, at an estimated cost of $300,000.

Jack Buchter, Orinda, is the architect.

BUILDERS EXCHANGE TO BUILD BUILDING

The San Jose Builders Exchange recently announced construction of a new building at the South-east corner of Park and Gifford Streets at an estimated cost of $40,000.

Donnell F. Jaekle, San Jose, is the architect.

INSURANCE COMPANY TO BUILD OFFICES

The Home Insurance Company of New York recently announced construction will soon start on a $1,000,000 new office building at the corner of Kearny and Spring Streets in San Francisco.

The building will be four stories in height with basement, and provision made for the addition of six stories at a later time if desired.

Meyer & Evers of San Francisco are the architects and the contract for construction has been let to Cahill Bros., San Francisco construction firm.

VETERAN ADMINISTRATION HOSPITAL CONTRACT LET

The Corps of Engineers, San Francisco District Engineers, recently announced the awarding of a general contract to the Wunderlick Construction Company; the Curlett Construction Company, and the Chas. E. Tompkins Company of Long Beach for the construction of a 500 bed Veterans Administration Hospital in Salt Lake City, Utah, at a cost of $7,903,300.

The buildings will be of reinforced concrete and brick construction.

ARCHITECT SELECTED PAROCHIAL SCHOOL

The Roman Catholic Bishop of Sacramento (California) has recently announced the appointment of architect Harry J. Devine of Sacramento to draft plans for a new St. Joseph's Parish school at Redding.

WORLD'S BIGGEST WELDING PROJECT

The biggest welding job ever performed in bulding structure will be undertaken with the $1,500,000 addition to the University of Washington stadium in Seattle.

Elimination of gusset plates and rivets will give the project a streamlined appearance, according to Sigmund Ivarsson, consulting engineer for the architects George W. Stoddard and Associates.

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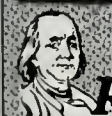

POOR RICHARD
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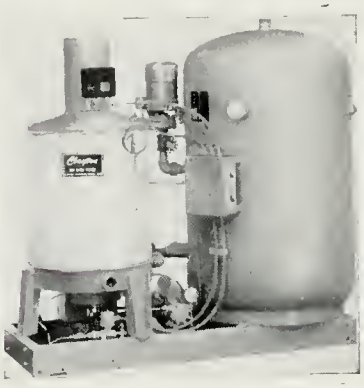
When completed the addition will provide 22,000 covered seats for the stadium in a choice location between the goal posts on the south side of the field. The addition itself will increase the capacity by 15,000 seats and will provide covering for 5000 existing seats.

ARCHITECT SELECTED

The architectural firm of Reynolds & Chamberlain, Oakland, has been selected to design a low temperature laboratory building for the University of California, Berkeley campus, according to a recent announcement by the University Board of Regents.

NEW INDUSTRIAL TYPE WATER HEATER HERE

Utilizing a high velocity, forced circulation principle a new industrial water heater with a capacity of 600 gallons per hour at 80 degrees F., has been announced by the Clayton Manufacturing Company of El Monte, California.



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DOOR AND FRAME COMPANY FORMED

The Overly Manufacturing Company of California has taken over the modern facilities of the Probert Manufacturing Company of Los Angeles, according to a recent announcement by H. W. Wehe, president of the Overly Manufacturing Company of Greensburg, Pa.

The firm will continue to make the Kalamein doors and frames, tin clad doors and hardware, channel and angle frames, metal door frames, louvers, and other building sheet metal products.

SCHOOL BIDS REJECTED

The Turlock High School District recently rejected a bid of $284,500 for the construction of a boys gymnasium at the Turlock High School.

GRAMMAR SCHOOL BONDS VOTED

Voters of the Yuba City Elementary School District (California) recently approved a $258,000 bond issue with funds to be used for the construction of a new 10 classroom Grammar School in Yuba City.

Chas. F. Dean, Sacramento, is the architect.

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Book Reviews

★

COVER PICTURE:

A typical California adobe Ranch House is the home of Mr. and Mrs. Stuart Haldorn in Carmel, California, which was designed by Architect Robert E. Jones of Carmel, and built by Stolte, Inc.

The adobe is shaded green and the trim is light green; a heavy shake roof adds to the attractiveness of the home as does the lamp-post entrance and adobe exposed fireplace. The garage at the right is equipped with automatic electric operated doors.

Interior of the home is in keeping with exterior architectural design.

ARCHITECT & ENGINEER is indexed regularly by ENGINEERING INDEX, INC.

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. EDITORIAL NOTES .

EIGHTY-SECOND ANNUAL CONVENTION OF THE AMERICAN INSTITUTE OF ARCHITECTS

The eighty-second annual convention of the American Institute of Architects, concluded a few days ago in Washington, D. C., is now a matter of history, however, to the many architects from all parts of the world who were in attendance the technical consideration of such items as "planning and re-developments," "lighting and illumination," "housing—both private and public," and many allied subjects is but the beginning of serious consideration of problems and opportunities facing the architectural profession.

As Carl Feiss, A.I.A., A.I.P. declares in the current issue of The Journal of The American Institute of Architects, "Housing has become a major domestic problem, and urban redevelopment will soon become one." "The members of the Institute are now preparing to assert their long-needed leadership in fields of widespread call for technical competency and accomplishment."

The eighty-second annual convention did not mark the end of any particular era in architectural design or professional consideration of paramount economic factors, it did however, re-emphosize the world-wide opportunities which the architectural profession has to become a vital factor in the future, of America, and of every city, town and community that go to make up the World.

* * *

LIBERTY is the basis of the Constitution, and whoever would dare to tap the foundation, or overturn the structure, under whatever specious pretext he may attempt it, will merit the bitter execration and the severest punishment which can be inflicted by his injured country.—George Washington.

* * *

YOUR HOME

There is one economic lesson which our Twentieth Century experience has demonstrated conclusively and that is that America can nor more survive and grow big without adequate homes for its people, than it can add to the product of nature and provide easier living for the people of the world without taxes and the much heralded "American Dollar."

Despite the effects of statistically minded theorists to create in the world of business a class distinction that has never actually existed, the American of today is a unit of a great people that marks the symbol of man's progress in the family home.

You may think you can sort men out into neat piles according to statistical concepts of what should be, but in the final analysis man is what his home life makes him. His contribution to his fellow man will be measured in terms of what he does with his leisure hours—his protection from the elements; his mental, spiritual and financial well being; his recognition and appreciation of the beauty and significance of flowers and trees; his immediate family and his neighbors—in short, a man is actually only a reflection of his HOME.

Fortunately there was probably never a time in history when the home building industry was as well equipped as today to meet the needs for adequate and desirable housing. Qualified builders using the very best of materials and design, together with time and labor saving utility devices, and a financial measuring stick that can be adjusted to the individual requirement—all contribute to give every American the most essential factor of our being and remaining a great nation, a comfortable, livable HOME.

* * *

One of the highlights of the A.I.A. convention was the awarding of the Gold Medal to Sir Patrick Abercrombie of England, and the conferring of Fellowships on A.I.A. members for outstanding professional performance.

* * *

SOMETIMES IT'S TOUGH TO SEE VERY FAR AHEAD

Trying to see way out ahead of yourself — to visualize what might be in store for you and your family — is never easy. So the temptation to let tomorrow take care of itself is a soft, short-sighted way out.

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NEWS AND COMMENT ON ART

CITY OF PARIS

The City of Paris, San Francisco, is showing the 9th Annual Pacific Coast Ceramic Exhibition, and according to Mrs. Beatrice Judd Ryan, gallery director, the show this year is the best presented since the event was inauguarted.

Displayed as the Pictures of the Month is a group of Water Colors featuring the work of Francis de Erdeley, Duane Faralla, Maitland Stanley and Saul Steinlauf.

The Rotunda Gallery is located on the fourth floor of the City of Paris store, Stockton and Geary Streets in San Francisco.

SAN FRANCISCO MUSEUM OF ART

The San Francisco Museum of Art, War Memorial Building, Civic Center, has announced the following Exhibition and Events for the month of May:

EXHIBITIONS: Art Movements and Public Taste, San Francisco; 14th Annual Drawing and Print Exhibition of the San Francisco Art Association; Photographs from Museum Collections The Lithographic Process, Lynton Kistler; Modern Movements in Permanent and Loan Collections of the San Francisco Museum of Art; Paris Exhibition Posters; Origins of Shape in Contemporary Art, Keith Monroe; New Paintings by Artists of the Bay Region, Barbara Stevenson and Tom Valiant, Roger Bolomy, and Margaret Peterson; and Contemporary Chinese Woodblock Prints.

EVENTS will include: Robert Evans Concert, featuring piano compositions by Bach, Mozart, Honegger and Sessions, on Monday evening May 22nd at 8:00 o'clock. The Interplayers will feature the "Lady From The Sea," a play in five acts, each Saturday evening at 7:30 p. m.

The Wednesday Evening Lectures, starting at 8:15 p. m. will be featured by the Paris Exhibition Posters, by Barbara Fitzwilliams; The Poster As An Art Form, by Barbara Fitzwilliams; Contemporary Chinese Prints, by Anneliese Hoyer; Contemporary Drawings and Prints, by Barbara Fitzwilliams; and Color Prints in Modern Art, by Barbara Fitzwilliams.

Sunday afternoon Lecture Discussions, May 14 and May 28th, will feature The Origins and Devel-

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Special
PARIS EXHIBITION POSTERS

An exhibition of approximately one hundred posters assembled for the San Francisco Museum of Art in France.

Posters are familiar enough in this country. Even when used for art exhibitions in museums or commercial galleries, they seldom make any contribution to creative art, and rarely indeed does an artist of distinction try his hand at this form of public announcement.

The present exhibition provides a complete contrast in poster making. These works fall into three general groups: posters designed by artists as posters with fine harmony between design and lettering, posters reproducing an actual work or detail of a work by a specific artist, and posters for exhibitions illustrating a theme (not expressing the artist's own art). The first are in themselves works of art; the second are examples of careful layout and typography; and the third are strikingly effective commercial art.

opment of Shape in Contemporary Art, by Robert M. Church, and Are There New Formal Concepts in Modern Art?, by Robert M. Church.

Activities will be highlighted by the Childrens Saturday classes, conducted by Marie Sandow; the Docent's Gallery Tours each Tuesday afternoon and each Sunday afternoon; and the Know Your World Film Series.

M. H. DE YOUNG MEMORIAL MUSEUM

The M. H. de Young Memorial Museum in Golden Gate Park, San Francisco, has announced the following exhibition for the month of May:

POND FARM WORKSHOPS—This exhibition includes drawing, painting, sculpture, weaving, metalwork, jewelry, and pottery. Pond Farm, Guerneville, California, is the center of artist-craftsmen activity, where the School of Workshops offers students the opportunity to serve an apprenticeship under the artists of the group.

PAINTINGS BY MISS JAYA APPASAMY—Miss Appasamy was born and educated in Madras, South India, making a study of the fine arts at Kalahaven, Sanhiriketan, International University which was founded by the poet Rahindranath Tagore. While teaching at Vassar College, she was selected for a scholarship for study in China and spent ten months at the National University of Peking. This is the first exhibition of her work in America.

HENRY HARRINGER—This is an exhibition of drawings and sketches by Harry Harringer, a foremost interior architect, book designer and illustrator, and art director. It contains about 35 pieces.

PAINTING BY IRMA ENGEL—Born in Badenweiler, Germany, Mrs. Engel spent years painting in Paris, southern France, Italy, Holland and Switzerland from where she traveled to England, Canada, Mexico and Tunis. Her work has been exhibited in many European and American cities.

PORTLAND ART MUSEUM

The Portland Art Museum, West Park and Madison streets, has scheduled a number of events and exhibitions for the month of May, according to Thomas C. Colt, Jr., director.

(See Page 34)

These posters are notices to the public with gallery name and exhibition title, but they are works of art as well, in which the artist concerned introduces himself to the passing public.

Braque, Matisse, Dubuffet, Leger, Miro, Picasso, Moore and Seligmann are only a few of the artists here represented. Few of the great names long associated with art in France are missing from this collection, and some artists represented are new or little known as yet here.

In an article for a recent addition of the San Francisco Museum of Art edition of the Magazine of Art, Denys Sutton, recognized British art critic, said "Let us perhaps hope that modern artists in America as well as Europe will follow the example of the Ecole de Paris. They will assist in beguiling the passer-by into the galleries and make him a collector or a patron. If nothing else, they will provide additional colour and charm to the streets, and at least entertain the 'flaneur'."

H. W. Underhill, A.I.A., Architect

FRONT VI

PROJECT APARTMENTS

CONSISTING OF

SIXTEEN APARTMENTS and GARAGES

INGLEWOOD, CALIFORNIA

ANGLE VIEW OF FRONT

The beautiful and attractive PROJECT APARTMENT buildings erected at 618-622 East 97th Street in Inglewood, California, were constructed at o cost of only $5.50 per square foot, which included landscape work and fencing.

Photos by
TUNICK & TUNICK

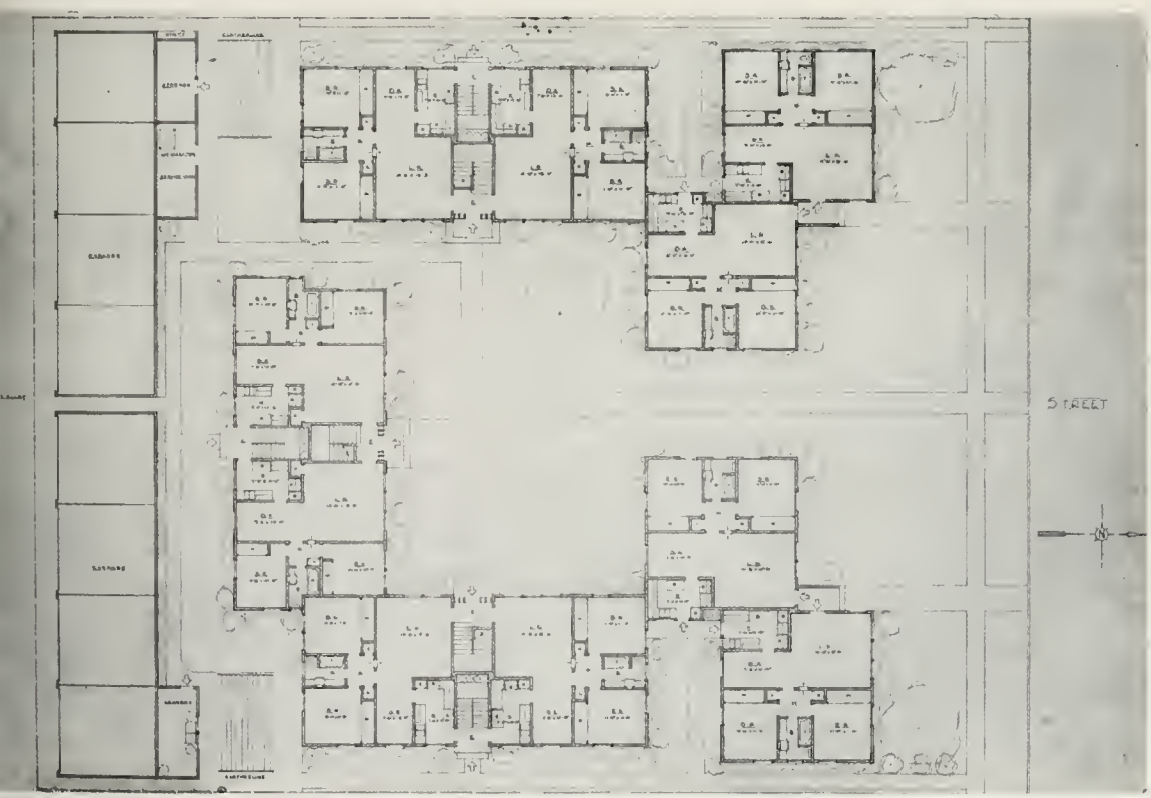
IE REAR
ILDINGS
S VIEWED
OM PATIO

H. W. UNDERHILL
A. I. A.
ARCHITECT

LOS ANGELES — CALIFORNIA

TYPICAL INTERIOR

FLOOR PLAN



Allison and Rible, Architects

FRONT VIEW

A BEVERLY HILLS HOME

BEVERLY HILLS, CALIFORNIA

LOCATION

1. In a wide canyon.
2. Relatively level.
3. Forty foot set-back from a fairly busy cross-country traffic artery.

CORNER OF LIVING ROOM

Photos by
Julius Shulman

ALLISON and RIBLE
ARCHITECTS
LOS ANGELES, CALIFORNIA

GEORGE B. ALLISON, A.I.A.
ULYSSES FLOYD RIBLE, A.I.A.
E. RAYMOND BROWN

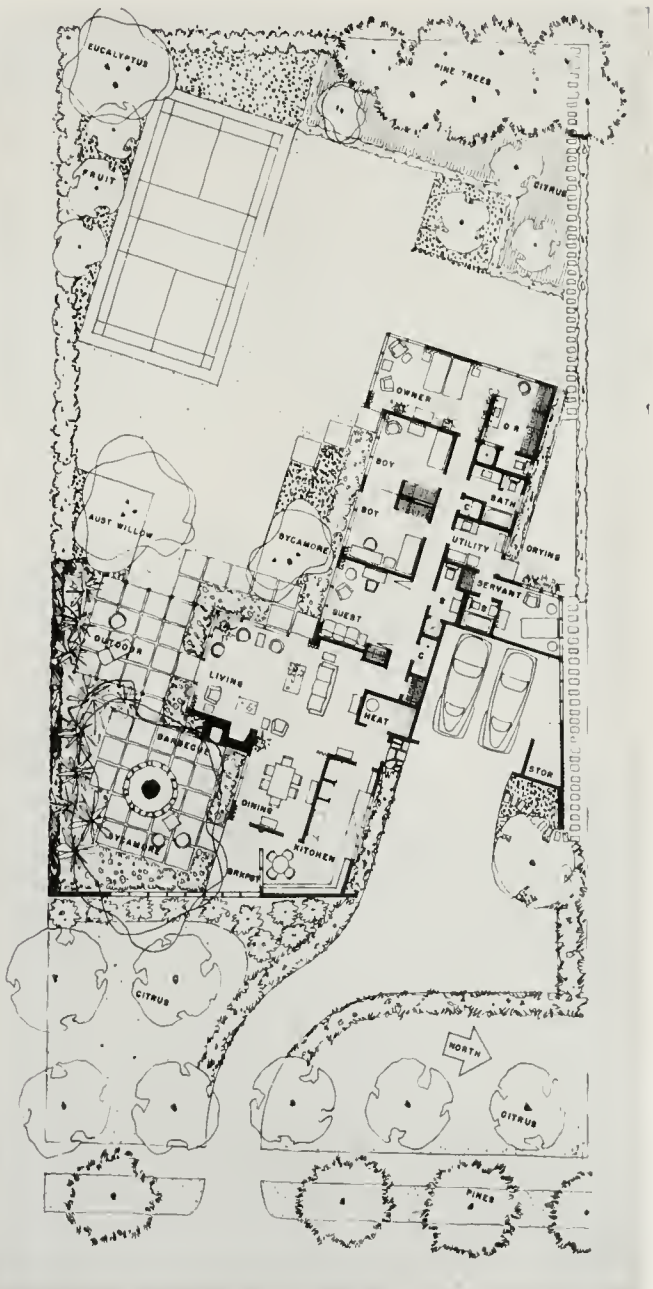
OWNERS REQUIREMENTS
(Architectue)

1. Contemporary composition and use of glass but with a color or texture of wall material that would identify it as being "Californiana."

OWNERS REQUIREMENTS
(Area Use)

1. Isolation from street noise.
2. Location of kitchen for control of everyone entering or leaving the property.
3. Garage near front of house to preserve maximum of rear yard for garden development.
4. All principal rooms facing south for view of wooded hills and maximum sunlight.
5. Arrangement of house on property so that maximum area of property could be centrolized for garden development.
6. A huge existing sycamore tree to be center of intimate garden for out-of-doors dinners and separate from larger rear garden. The intimate garden was required to be easily served from the kitchen and wos to be equipped with a barbecue.

LOT PLAN



ALLISON AND RIBLE, Architects

OWNERS REQUIREMENTS

(Plan)

1. Large living room extensible to out-of-doors by architectural treatment.
2. Dining room as an area off living room.
3. Kitchen as control point with alcove for breakfast furniture. Latter also to be used for "set-ups" when large dinner parties are given. Breakfast "alcove" arranged to serve as "buffer" so that no view of kitchen is possible when door from Dining Room to Kitchen is open. A "no-stoop," "no-reach" Kitchen was required—hence no cupboards, cases, or drawers of any kind below two-feet, six-inches above floor or over six feet above floor.
4. Breakfast porch facing south, handy to kitchen for members of family. Easterly morning sun is "filtered" through adjustable wood louvers.

Entry Area is generous in size. Heating plant in closet at right.

5. Two rooms for children (eight years apart in ages) with common bath available.
6. Guest Room with Guest Bath separate so that evening guests may use latter without interfering with an elderly guest who may have retired.
7. Master Bedroom with open-type Dressing Room and Bath.
8. Maid's Room near Children's rooms.
9. A utility room rather than the conventional "back porch." Most deliveries are made at or near the front of the house these days anyway so that the "back porch" actually becomes a laundry sewing room. Utility Room is located at source of greatest quantity of soiled linen and adjacent to "hanging yard" and various linen storage closets in Hall.

EXTERIOR WALLS

Redwood shakes (double hand split) allowed to weather.

ROOF

Composition with gravel.

INTERIOR

Hardwood plywood finished natural in all rooms including Kitchen. Various types of wood used in the separate rooms. Occasional walls used as an accent in color.

FLOOR

Carpet on concrete slab.

CEILING

Acoustic material throughout.

Photos by Frederick W. Martin Company

HOUSE
Mr. and Mrs. Wm. H. Burgess
PASADENA, CALIFORNIA

ELMER GREY, Architect

The house of Mr. & Mrs. Wm. H. Burgess of Pasadena, illustrated herewith, embodies some unusual features that are worthy of special comment.

As may be seen from the illustrations the site embraces a magnificent mountain view. Seldom does a situation for a home have one equal to it.

In designing the house the endeavor was to make the most of this mountain

THE LIVING ROOM BAY

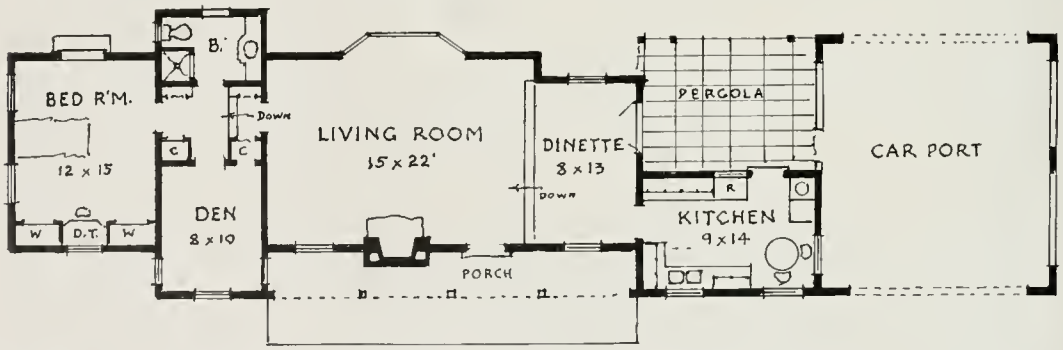
THE DEN

view, to have the house harmonize with its unusual environment, and to make it as attractive as possible with the limited outlay of funds at disposal. These objectives account for some of the features to be seen in the illustrations.

A large bay window in the living room facing the mountain was a natural feature to decide upon; and that it should have steel sash in order to interrupt the view as little as possible. But steel sash designed for residential use are relatively expensive. However, that used for commercial buildings is much lower in price. Inasmuch as there were plenty of opportunities for ventilation elsewhere in the Living Room it was seen that commercial steel sash that did not open would answer the purpose fully as well if it were sufficiently good looking. The manufacturers of such sash were doubtful if it would be satisfactory because of its being made with the putty side in. But there isn't anything so alarming about putty, and an inspection of the sash in a commercial building convinced the architect that this would be no objection—and it proved to be so. Considerable money was thus saved by using commercial sash instead of the regulation residential steel sash that open and have to be provided with screens.

The outside of the house is covered with 1 x 12" rough redwood boards, their lower edge cut to an undulating line with a draw-share, and the boards finished with a cold water paint that gives an aged appearance.

Another unusual feature consists of the landscaping of the grounds. The front lawn is not a lawn at all. It was noticed that sweet alyssum grows wild in that neighborhood and thrives on practically no care. So, instead of grass which would have been hard to make grow in the sandy soil there prevalent, the wide expanse of property in front of the house was planted in sweet alyssum. It helps to tie the house in with its rather wild and picturesque surroundings.



FLOOR PLAN

HOUSE FOR MR. & MRS. WM. H. BURGESS, PASADENA

ELMER GREY, ARCHITECT

Photo by Stoughton

LEILAND JOHNSON HOME

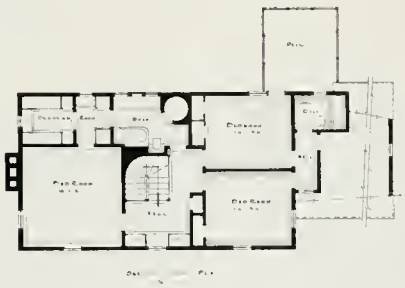
WEST LOS ANGELES, CALIFORNIA

Architect:

JOHN BYERS, A.I.A.

Associate:

EDLA MUIR



SECOND FLOOR PLAN

FIRST FLOOR PLAN

¼"—1' 0"

Photos by Francis Kies

Residence Dr. A. E. Yunker

OAK GROVE, OREGON

MORGAN H. HARTFORD, A.I.A.
ARCHITECT

IVAN PHELPS
CONTRACTOR

2450 Sq. Ft. Area

The building site is situated on the Willamette River and the rooms are arranged to overlook it. The house is brick veneer frame construction, one and a half stories without basement. It has a cedar shingle roof featuring staggered courses. Foundation is of concrete. Heating is forced warm air gas fired with automatic controls. In lieu of Basement, a large Utility Room is provided. General storage space is located in large room equipped with shelving and entered from garage.

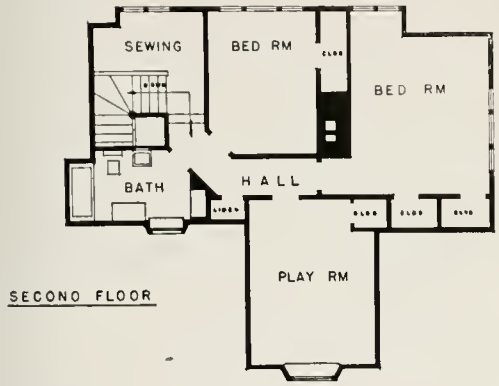
LIVING ROOM—Gable End and Outside Fireplace

The Living Room has a trussed chapel ceiling. The whole end of the Dining Room protrudes beyond main house walls to form a large circular bay window capturing the full magnitude of the river view upstream and downstream. Glass doors lead from both the Dining and Living Rooms onto yard terraces. An outside fireplace is provided at the Living Room end gable.

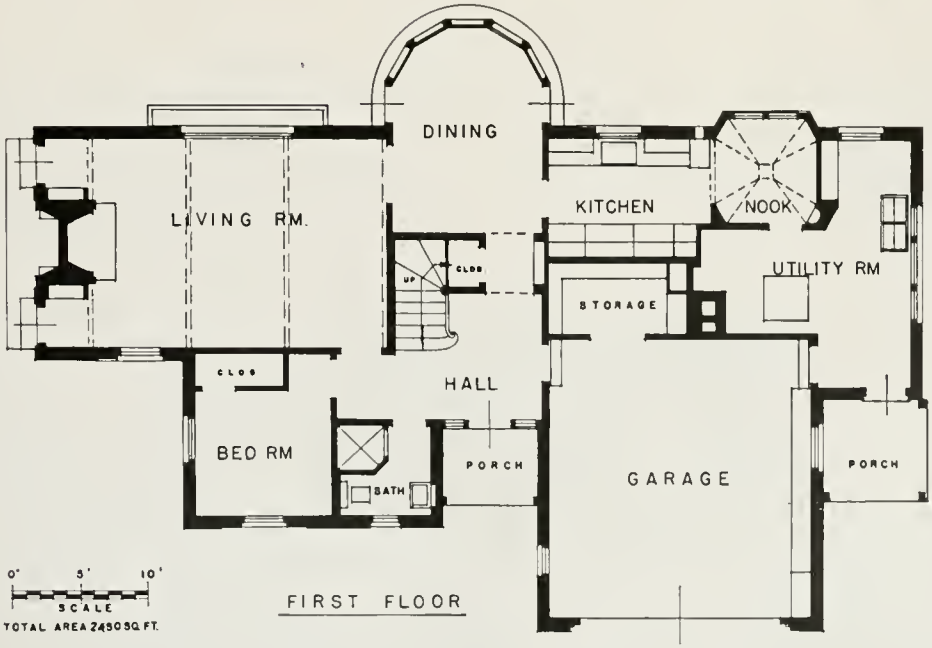
A Sewing Room and a large Play Room are provided on second floor in addition to Bedrooms and Bath. Ample closet space is provided for all rooms.

Interior walls and ceilings are of plaster. Floors are hardwood. Entry Hall has block type flooring. Utility Room and Garage have concrete floors, Kitchen and Nook have linoleum floors. Bathrooms are tiled. Living Room ceiling has Thermax panels between trusses. Exterior is of weathered shingles, oiled cedar boarding and soft red brick. Hand carved beams extend across Garage and Main Entrances.

BAY WINDOW, DINING ROOM



SECOND FLOOR



FIRST FLOOR

RESIDENCE
DR. CECIL J. ROSS
PORTLAND, OREGON

Total Area, 2300 sq. ft.

ARCHITECT:

MORGAN H. HARTFORD, A.I.A.

CONTRATOR:

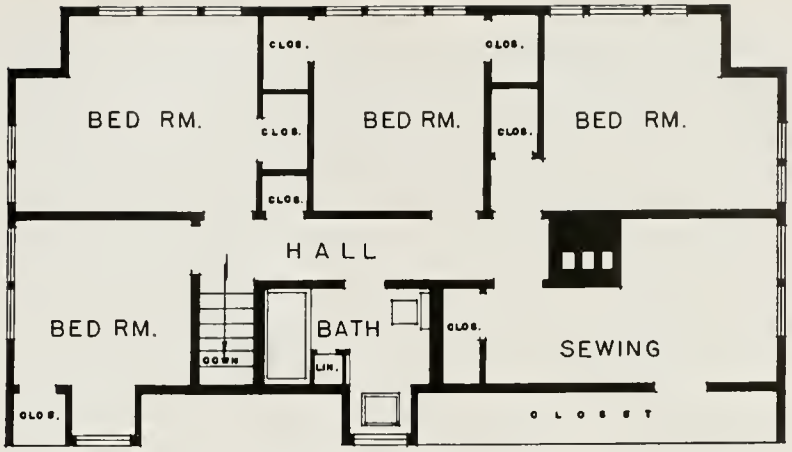
HOWARD HALVERSON

VIEW OF THE DR. CECIL J. ROSS HOME FROM STREET ELEVATION

SECOND FLOOR PLAN →

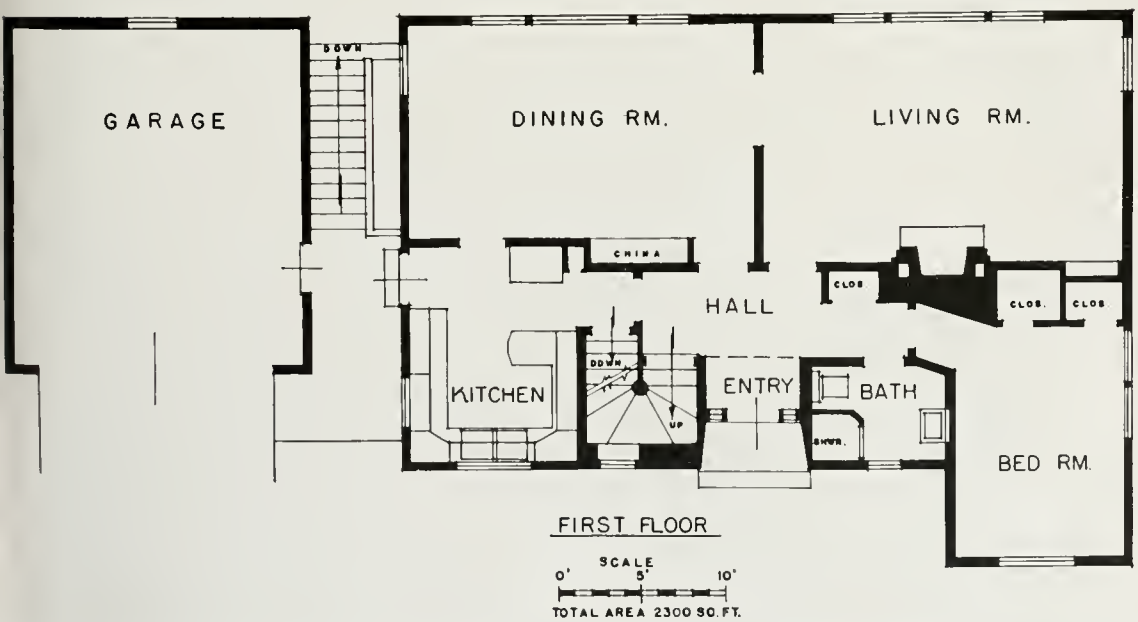
FIRST FLOOR PLAN ↓

Scale 1"—10'



SECOND FLOOR

This home is frame construction, one and a half stories with daylight basement. Cedar shingles and cedar siding are used on exterior. Foundation is of concrete. Interiors are of plaster painted or papered. Certain rooms have knotty pine panels. Hardwood floors are used except for Kitchen and Bathrooms which are of linoleum. The roof was left unstained to weather to a natural gray and walls and trim were painted white.



FIRST FLOOR

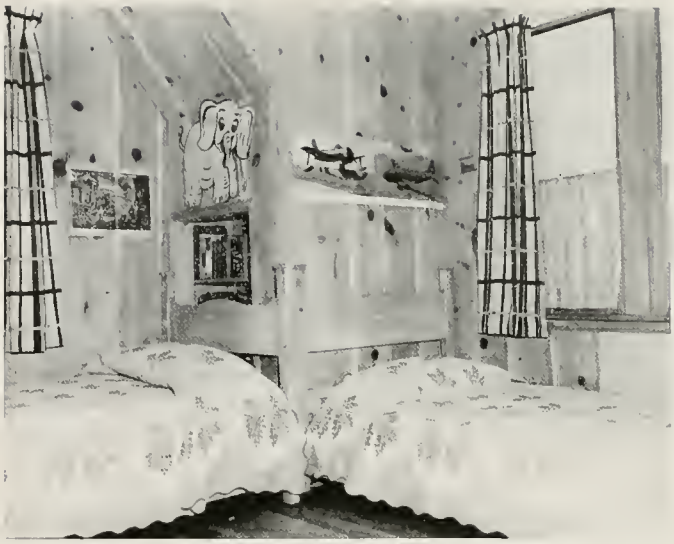
SCALE 0' 5' 10'

TOTAL AREA 2300 SQ. FT.

THE LIVING ROOM . . . above

THE KITCHEN . . . below

BOYS
BED
ROOM



The building site is on a hill and overlooks the city proper. All main rooms have been located to enjoy the expansive view of the city. An attached garage with breeze-way provides a convenient direct entry to Kitchen.

The first floor provides large Living and Dining Rooms, Kitchen, Master Bedroom, Entry Hall and Bathroom. Upstairs there are located four Bedrooms, Sewing Room and Bath. Ample closets are provided. Basement features separate Furnace Room, Recreation Room, Laundry Room, Hobby Workshop and general storage areas. Basement open directly onto lower level terrace.

HOBBY
WORK
ROOM

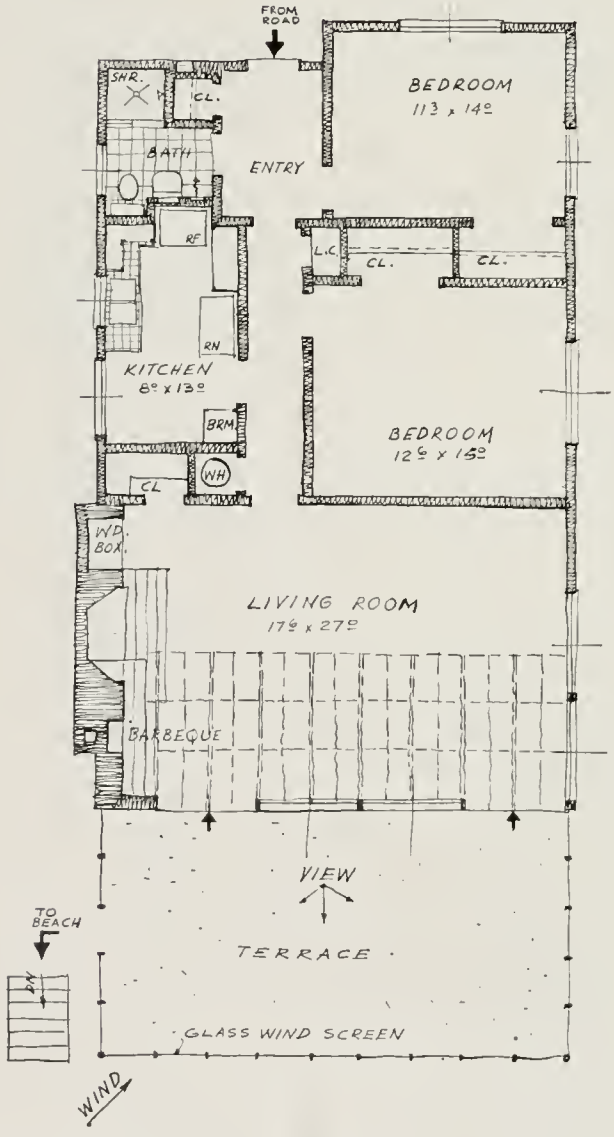
BEACH HOUSE

MALIBU BEACH, CALIFORNIA

Owner — N. E. SHENBERG

Architect — WALTER R. HAGEDOM, A.I.A.

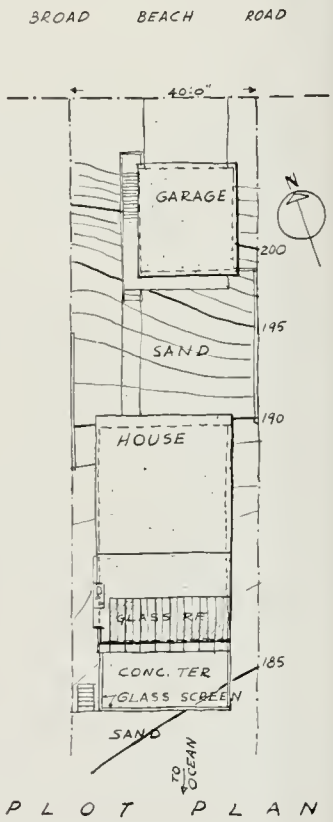
Consulting Engineer — J. E. COSTELLO



FLOOR PLAN

GROUND FLOOR PLAN

Foundations of this house are of concrete rather than the piles usually utilized in this area. Dry wall construction throughout consists of gypsum board walls, composition board wainscots in the kitchen and bath, celotex ceilings, and linoleum floors.



PLOT PLAN

WIND SCREEN

The large concrete terrace is protected from wind and glare by a screen of ¼ inch AKLO-heat absorbing plote glass.

Exterior walls are Sisalkraft and felt stripped and covered with asbestos shingles, thereby creating an insulating oir space. Shower walls are of glass. Shower pans are prefabricated with ceramic tile finish.

←

PLOT PLAN

This week-end house is built directly on the beach overlooking the Pacific Oceon.

The lot drops steeply away from the street, the ground floor level being about 20 feet lower than the garage.

All ceilings are insulated with fiberglass.

Electricity was used throughout for heat, cooking, hot water and garbage disposal. A water softener is located in the garage.

The house is cool in summer and warm in winter.
Under the concrete terrace are men's and women's dressing rooms with showers and toilet focilities.

LIVING ROOM

Ceiling includes an area of ¼ inch hammered pattern frosted AKLO heat resisting wire glass.

Photos by Julius Shulman

VARIETY OF MARBLE FORMS NEW ALTAR AT ST. IGNATIUS CHURCH

SAN FRANCISCO, CALIFORNIA

By JAMES J. LYONS, S. J.
University of San Francisco Lecturer on Fine Arts

Beauty has been defined "as the pleasing impact of form." When those blessed with the sense of music hear a sonata of Beethoven or Mozart, a fugue or an oratorio of Bach or Handel they are for that period of time at least released from the struggle and difficulty of the world. They feel almost as though they were in the august presence of God. For those to whom nature is very dear, the satisfying beauty of the sea, the perennial variety of the mountains, or the gnarled trunks of great oaks branching majestically into the shade above, transport them also from the terror and perpexity of an anything but serene world. All know there is an absolute beauty and to that beauty they are akin.

One of the greatest, lasting services to the world is the service of the artist who reveals to us the perfection of beauty. Sometimes beauty appears even more wonderful when it comes to us through art than when it comes to us through nature, because when it comes to us through art, God seems to speak to us through another human being, and that is always a most moving and revealing aspect of the gifts of God. Even the beauty of the sea and the beauty of the sky are not so entrancing as the beauty of God revealed to us by the handiwork of some artist, and so all churches and all services should have in them the element of beauty. The genius that reveals beauty is the possession of great minds, and even the power to

The high altar follows the Renaissance style of the church.

see beauty belongs to those who will take the trouble to observe, to contemplate.

The Scripture speaks of God as "the first Author of beauty" (Wisdom 13:3). Sacred artists are great assistants in the worship of God. True sacred artists reach the hearts and minds of those inside and outside the fold who are of good will and earnestly interested in religious truth, whenever the embodiment of that truth is beautifully expressed. The Catholic Church has always realized the potency of the arts as silent, edifying and enobling influences. When we create in conformity with the best of the Church's traditions, we are not satisfied with mediocrity or less than mediocrity where the beauty of God's House is concerned. "A jeweler does not put a pretty pearl in an ugly setting. Beautiful altars and beautiful Church furnishings in Churches architecturally true, will make for greater beauty in all lives spiritually, and even materially." It has been said "no man receives the full culture of a man in whom the sensibility to the beautiful is not cherished, and there is no condition of life from which it should be excluded." How much more should beauty be the ordinary atmosphere of our Churches instead of being looked upon as a luxury and an extravagance that could be stretched to more utiliarian purposes. " . . . high Heaven rejects the lore of nicely calculated less or more."

A beautiful architectural monument, no matter how true it might be in its proportions, has a sense of incompleteness about it unless all its lines, arches and domes culminate into a fitting structural canopy for a spacious Sanctuary and an Altar that focuses the eyes of all worshippers upon the earthly habitation of God, the first Author of beauty.

It was with all this in mind, the essential incompleteness of St. Ignatius Church with its stark white, temporary, wooden Altar, that after seven years of planning, final drawings for a more substantial Table of Sacrifice were sent to Italy for execution. These designs were the result of eight

(See Page 27)

The Baldachino is of close grained white Appalachian oak carved by internationally famous artisans.

Faced With Architectural Porcelain Enomel Veneer From Sidewalk to Roof

COMMERCIAL BUILDING

MODESTO, CALIFORNIA

This attractive, one story building represenitng numerous savings in construction costs because of the use of lightweight facing which permitted faster erection and required less structural support, was erected for Esgar's on one of the busy corners of Modesto fourteen years ago and indicates an architectural trend that has become commonplace today.

Other than alterations of the signs, due to change of building occupants, the glass-hard porcelain veneer facing has withstood the erosive effects of time, weather, and use. A recent washing with soap and water has restored the original brilliance of color and finish.

The lower photograph shows the adjoining area has been adapted for off-street automobile parking.

TOP VIEW:
Shows building as it was originally erected in 1936.

BOTTOM VIEW:
Same building as it appears after fourteen years of use and exposure to weather.

VARIETY OF MARBLE

(From Page 25)

tentative plans studied through the regimes of three Rectors. It was an historical day, therefore, when from the harbor of Livorno, south of Genoa, the sturdy ship, "Marine Snapper," carrying 126 crates of choice marble, put to sea with its precious cargo—the total weight of which was destined for the port of San Francisco.

The Sanctuary Floor

On the Feast of St. Augustine, August 28, 1949, the "Marine Snapper" arrived. This shipment contained the Altar and the greater portion of the marble for the upper Sanctuary. A second ship load arrived September 17, 1949 on the S. S. President Polk. This comprised 98 cases, which included the marble for the lower Sanctuary level, the Communion railing, candlesticks and tabernacle. The marble reached its destination with very negligible breakage involved. A great deal of anxiety was lifted. Prior to the placing of the marble on the floor of the Sanctuary, preparation was made by readjusting its dimensions and making the necessary reinforcements in the floor and cement foundations. When this was completed, the 3,000 foot floor area was covered with the design pattern. The field of the floor of white rectangles is Calacatta marble (Italian cremo), the black rectanbles are of Porto Venere. All borders are Rosso Levanto, baseboards and column plinths are Verde Alpi.

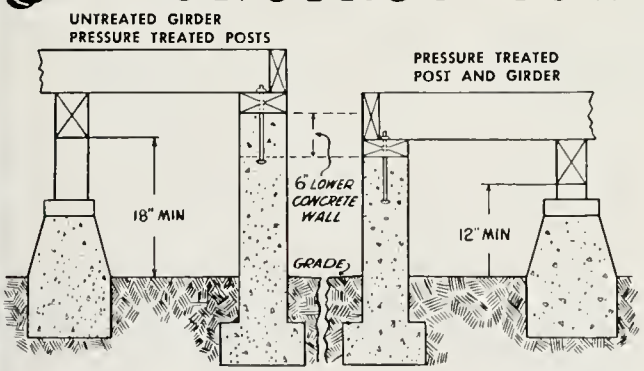
The central panel in the Sanctuary proper forms a sort of Mosaic rug design. The frame is a border of white Italian Cararra marble against a Filetto Rosso field. The diamond designs are of Breccia Violetta, interspersed with Grégio Sienna and Repen marbles. The four steps leading to the upper level of the Sanctuary are of Botticino marble, which is creamish in color and comes from the Northern part of Italy, near Trieste. The risers are again of Rosso Levanto. In front of the columns near the lateral chapels of St. Joseph and the Blessed Virgin, at the edge of the circle of the main Sanctuary, is an insert of yellow Sienna border to vary the pattern and to disrupt the monotony of the design. The communion railing is conventional balustrade style, composed entirely of Breccia Violetta. The kneeler along the Communion railing is the Rosso Levanto tread with the risers in Botticino marble.

The High Altar

The Altar proper is set on an elevation attained by five steps. The mensa of the Altar is eleven feet wide, a monolithic slab containing a carved Sepul-

(See Page 35)

CONSTRUCTION TIPS:



The above typical details generally acceptable to FHA indicate how 6" of concrete in the foundation wall can be saved by using pressure treated girders.

BAXCO PRESSURE TREATED girders with 12" clearance above ground are acceptable in FHA construction. If girders are untreated, 18" clearance is required. BAXCO PRESSURE TREATED FOUNDATION LUMBER can thus lower the cost of construction – make a lower more attractive home, and reduce maintenance expense due to termite and dry rot damage.
Uniform Building Code, FHA, and State Architect accept BAXCO PRESSURE TREATED Douglas Fir for mudsills -- Ask your lumber dealer for alternate quotation on your next list.
Specify BAXCO PRESSURE TREATED FOUNDATION LUMBER for mudsills, posts, girders and first floor joists for a "Longer Lasting Home."

J.H. Baxter & Co.
333 Montgomery St., San Francisco 4, Calif.
601 W. 5th St. Los Angeles 13, Calif.

BAXCO PRESSURE TREATED FOUNDATION LUMBER J.H. BAXTER & CO.

A. I. A. ACTIVITIES

American Institute of Architects

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Central Valley of California:
Frank V. Mayo, President; John W. Bomberger, Vice-president; Ivan C. Satterlee, Treasurer; William Koblik, Secretary, 2203 13th St., Sacramento, California.

Central Coast Counties Chapter:
Birge M. Clark, President; Lisle Fred Richards, Secretary-Treasurer; Thomas E. Elston, Jr., Chester Root and Henry Morgan Stedman, Directors. Office, 411 Lafayette Street, San Jose.

Colorado Chapter:
Henry J. Von Wyl, President; Charles H. Overholt, Secretary, 2509 W. 36th Avenue, Denver, Colorado.

East Bay Chapter:
James H. Anderson, President; Loy Chamberlain, Vice-President; William Corlett, Secretary; Chester Treichel, Treasurer. Office c/o Sec., Bank of America Bldg., Oakland.

Montana Chapter:
Orr Pickering, President; H. C. Cheever, Secretary, Montana State College, Bozeman, Montana.

Nevada State Board of Architects:
L. A. Ferris, President, Reno; Walter Zick, Secretary, Las Vegas; Directors, Aloysius MacDonald, Las Vegas; Russell Mills and Edward Oarsons, Reno. Office, P. O. Box 2107, Las Vegas, Nevada.

Northern California Chapter:
Donald Beach Kirby, President; W. Roland Gibbs, Secretary. Office 369 Pine Street, San Francisco 4.

Oregon Chapter:
Irving G. Smith, President; Holman J. Barnes, Vice-President; Albert W. Hilgers, Secretary; and Millard H. Schmeer, Jr., Treasurer. Office, 909 Spaulding Building, Portland 4, Oregon.

Pasadena Chapter (California):
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San Diego Chapter:
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San Joaquin Chapter: (California)
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Santa Barbara Chapter (California):
Henry W. Howell, President; Wallace Wm. Arendt, Secretary, 236 La Arcada Bldg., Santa Barbara, California.

CALIFORNIA COUNCIL OF ARCHITECTS
Andrew T. Hass, President; Adrian Wilson, Vice-President; Malcolm Reynolds, Secretary-Treasurer: Office 369 Pine Street, San Francisco.

Southern California Chapter:
John Rex, President; John J. Landon, Vice-president; Burnett C. Turner, Secretary; Jack C. Lipman, Treasurer. Chapter Headquarters, 3757 Wilshire Blvd., Los Angeles 5.

Spokane Chapter:
Richard H. Eddy, President; Harry C. Weller, Vice-President 1; Kenneth D. Storment, Vice-President 2; Victor L. Wulff, Secretary, and Carl Johnson, Treasurer. Office 1023 W. Riverside Ave., Spokane, Washington.

Utah Chapter:
Howell Q. Cannon, President; William J. Monroe, Jr., Secretary, 3707 South 32nd West Street, Salt Lake City 7, Utah.

Washington State Chapter:
Waldo B. Christenson, President; Perry B. Johanson, 1st Vice-President; Charles T. Pearson, 2nd Vice-President; John M. Morse, Treasurer; and Bliss Moore, Jr., Secretary. Offices 714 American Building, Seattle 4, Washington.

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NORTHERN CALIFORNIA CHAPTER

The May meeting, held in San Francisco, was a joint conference with the members of the East Bay Chapter of the A.I.A., at which Frank V. Mayo, A.I.A. Architect of Stockton, and President of the California Council of Architects introduced Frederic A. Chase, the newly appointed Executive Secretary of the Council to the two Chapters.

Chase, the first Executive Secretary to serve the state Council on a full time basis, is a former newspaperman and was public relations director of the Southern California Chapter of the Associated General Contractors, as well as Garden Editor of the Los Angeles Examiner, and a member of the executive committee of Los Angeles Beautiful.

While explaining his association with the Council had become effective but a few days prior to the meeting, Chase invited suggestions from Chapter members on the state-wide program.

* * *

June 13th is the day set for the annual "ARK" meeting with the East Bay Chapter and the faculty and students of the University of California.

* * *

WOMEN'S ARCHITECTURAL LEAGUE of San Francisco has set up a memorial fund in honor of Lillian Igaz, a very active member of the WAL

who passed away recently. The fund is to be used to help bring university students to the Chapter dinners.

STATE BOARD OF ARCHITECTS

Norman Blanchard has been made President of the California State Board of Architectural Examiners. Clarence Pederewski of San Diego has been appointed to the board to succeed Louis Gill of San Diego.

COAST COUNTIES GROUP ARCHITECTS MEET

The Coast Counties sub-chapter of the Northern California Chapter, A.I.A., has petitioned for recognition as a separate Chapter. The request being submitted to the national A.I.A. for action.

The area included in the proposed new Chapter includes the counties of Santa Clara, San Benito, Santa Cruz, and Monterey.

WOMEN'S ARCHITECTURAL LEAGUE OF SAN FRANCISCO HOME TOUR

The Women's Architectural League of San Francisco, South Bay Group, conducted a Home Tour of the Lower Peninsula on May 16th under the chairmanship of Mrs. William Hempel.

A similar Home Tour of the Upper Peninsula area was recently held with Mrs. William Rowe serving as chairman.

Both tours were held on a Sunday in order that the men could visit the houses with their wives.

* * *

The East Bay Group conducted a tour of houses in the Piedmont and Montclair District of Oakland during this month. Mrs. Irwin Johnson was the general chairman with Mrs. George Simonds assisting.

SOUTHERN CALIFORNIA CHAPTER

The May meeting was held at the College of Architecture at the University of Southern California, it being the annual joint meeting of the Chapter with the Student Chapter at the College of Architecture, USC.

Speakers for the occasion were Millard Sheets, famed painter, and Albert Stewart, famous sculptor, their subject being "Arts in Architecture."

A special exhibit of work done by the students was presented.

Cornelius M. Deasy was the program chairman.

WASHINGTON STATE CHAPTER

The May meeting was held in Seattle with a consideration of ways and means of assisting in the Seafair and Centennial celebration.

In that the June meeting will be the annual meeting consideration was given to the Naminating Committee and Ways and Means Committee.

* * *

A recent meeting of the Tacoma Society of Architects was devoted to a joint conference with the Master Painters. Numerous items pertaining to paints and painting surfaces were discussed.

* * *

The annual Architects' Bowling League dinner was held at the Seattle Town and Country Club with plans being made for a continuation of the league next season with the addition of two more teams. Sam Hammack was re-elected president, Arnie Gangnes was re-elected secretary, and George Graham, Jr., was elected treasurer.

Team trophy was awarded to W. H. Witt Company with individual trophies going to each member of the team. Melvin Larson with a score of 244 won individual high score, an all time high for the league. Team high game and series awards were won by Mallis, DeHart and Hopkins Team No. 1.

* * *

CONFERENCE ON CHURCH ARCHITECTURE—One of the year's highlights was the Conference on Church Architecture held April 25 at the College Club, with one hundred fifteen architects, clergymen and laymen present. Purpose of the meeting was to examine the question: "How can

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Structural Engineers Association of Southern California
E. C. Hillman, Jr., President; Donald F. Shugart, Vice President; Robert J. Short, Secretary-Treasurer. Directors: Charles M. Herd, John Minasian, Harry Bolin, John Case and Lewis Osborne. Office, 202 Architects Bldg., Los Angeles 13.

Puget Sound Engineering Council (Washington)
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STRUCTURAL ENGINEERS ASSOCIATION OF NORTHERN CALIFORNIA

The May meeting was held in the Engineers Club, San Francisco with J. W. Kelly, Professor of Civil Engineering at the University of California in Berkeley, speaking on the subject "Plastic Flow of Concrete."

Kelly has long been identified with the concrete industry and presented some very interesting facts relative to the use of concrete.

* * *

Plans have been made to hold the Annual Picnic at the Diablo Golf and Country Club, near Oakland, during July. Armand Nishkian has been appointed chairman of the Picnic Committee. M. C. Poulsen will be in charge of the Golf Tournament, and Buzz Wright will handle the baseball, horseshoes and other activities.

* * *

MEMBERS: New members include Sherman P. Duckel, Fred W. Cheesebrough, and Thomas F. Fitzgerald. New Affiliate members include Arthur B. Smith, Jr.

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STRUCTURAL ENGINEERS ASSOCIATION OF CENTRAL CALIFORNIA

The May meeting was devoted to a Ladies' Night, with the event being held in the Odd Fellows Temple in Sacramento.

Dr. J. N. Bowman, State Archives Historian, gave a talk on the subject of "The First Civil Engineering Project in California," which was followed by a demonstration of Folk Dancing in costume by "The Castanets" and the members and friends attending.

STRUCTURAL ENGINEERS ASSOCIATION OF SOUTHERN CALIFORNIA

The Structural Engineers Association of Southern California held a regular monthly meeting April 5th at a new location, The Alexandria Hotel.

Harry Bolin, Past President, discussed the American Society of Civil Engineers Convention and expressed the desire for all to attend, especially since the structural program was sponsored jointly by the S. E. A. and the A. S. C. E.

An informal report on the type of examination to be given applicants for the authority to use the title "Structural Engineer" was made by Committee Chairman Oliver Bowen. The Committee's recommendations included an oral examination of two or three hours duration to review the applicant's past achievements, and to ask technical questions which might better be answered orally. This portion of the examination would carry equal

weight, in so far as grading is concerned, with the written portion, and would be given prior to the written portion.

After a brief intermission the first guest speaker, Lloyd Aldrich, City Engineer of Los Angeles, presented his talk on "Speedier Financing of Los Angeles Parkways Systems." Aldrich presented a review of Traffic and Transit Development since 1939 disclosing a recommended 165 miles of parkways to serve Los Angeles, 19 miles of which are now in operation. The cost of the additional 146 miles would be about $584,000,000.00. On the present basis it would take some twenty years to accomplish this, but with additional and specifically defined revenue from state gasoline tax it was felt that the time element could be reduced considerably.

The second guest speaker was Merle Smith, Jr., representing the Associated General Contractors who discussed "Contractor vs. Architect and Engineer." Although greatly out numbered, Mr. Smith, a partner in the T-S Construction Engineers, and instructor in Estimating & Building Costs at U. S. C., presented straight forwardly the complaints most prevalent among contractors. Following are a few recommendations Smith offered:

1—Set the elevation of footings, instead of calling for "undisturbed soil."

2—Adjust cost of revising elevation of footings by Unit Price—said Unit Prices to be broken down in as many categories as necessary—for example, excavation, forms, concrete and backfill.

3—Do away with as many "Alternates" as possible.

4—Do not require a plan "deposit."

5—Provide more complete specifications, principally on "Scope of Work" to eliminate oversight or duplication by subcontractors.

6—Limit the number of bidders on all jobs to 8 or 10.

MAY MEETING

The regular monthly meeting, May 3, was held at the Alexandria Hotel. President Ernie Hillman presided over a very interesting business and technical session.

Steve Barnes introduced Braven Dyer, sports writer for the Los Angeles Times. Besides a general discussion of news reporting and sports casting in the field of athletics, Dyer presented an insight into the 1950 western conference football outlook.

Dean Franklin Thomas, professor of Civil Engineering at Cal Tech and a past president of the American Society of Civil Engineers, was a guest at the meeting and spoke a few words on Architect-Engineer relationships.

After the introduction of new members Oliver Bowen read a letter received from the State Board of Registration for professional engineers. This letter was in reply to suggestions made by the Structural Engineers Association of Southern California for modifications in the procedure for granting the authority to use the title "Structural Engineer." The reply stated the alternates suggested seemed to reduce to an oral test, conducted by five structural engineers, to qualify an applicant for the written examination. The answer to this was that there is no authority for such a procedure under the state law, and that even if there were, the cost of such a system would be prohibitive. This produced considerable discussion and a motion was passed directing further committee study of the reply and suggesting an answer to the State Board.

Program chairman George Guibert presented Professor George Winter of Cornell University, the main speaker of the evening. Professor Winter was born in Vienna, educated in Munich and was a designing engineer in Russia from 1932 to 1938.

In 1938 he came to Cornell for additional study and teaching and has remained at Cornell until his present visit to the west coast. Since 1939 he has been actively engaged in research in the use of light gauge metal for structural members. Professor Winter's talk was illustrated with slide projections and opened with a general review of the analysis of light gauge steel members. Included

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UNIVERSAL CORPORATION SPONSORS APRIL MEETING

Although the considerable efforts of the chapter to stage another successful Table Top Exhibit have largely stolen the spotlight from other events, we must commend Past President Ken Pinney for the very fine program which featured Mr. C. A. McKellips of the Universal Corporation, Dallas, Texas. He presented to Council members and their guests information on the Universal line of aluminum windows and accessories, pointing out that two of their most successful installations have been in the much publicized General Petroleum and Prudential Life buildings in a city to the south of us. Ken, who once wore other colors, now heads his own company and handles Universal products and other materials. Our thanks go to Ken for a job well done.

ARE YOU TROUBLED WITH "SPECS" BEFORE YOUR EYES?

After a considerable amount of pick-and-shovel work the A.I.A. Producers' Council Joint Technical Committee fired its opening gun in the campaign to clarify Architects' specifications. First step in the long range program, capably directed by Tait Smith of Ceco Steel Products, will be the collection, correlation, collation and dissemination of the answers being obtained as a result of a questionnaire mailed out to all Council members on April 26.

The Joint Committee, headed by co-chairman Smith for the Producers and Wendell Spackman for the AIA, has several well defined goals to work toward. As announced recently these are "to define the placement of specific materials in the proper section of the specifications", "to classify materials as to types and qualities to prevent the substitution of inferior products" and "to establish standards of installation and responsibility." Considerable interest in the program has been demonstrated by other segments of the construction industry and it is proposed to enlist their aid after the preliminary results have been analyzed.

Although planned as a local effort, there is every possibility that the results may have nation wide significance before the project is completed. Other committee members are Architects Ernest Winkler, F. Bourne Haine and Mario Ciampi and Producers Ken Pinney, Ray Brown and Don Lyon.

CALIFORNIA COUNCIL OF ARCHITECTS SELECTS EXECUTIVE SECRETARY

As a result of action taken at the Palm Springs meeting the CCA announces that their first full time Executive Secretary has been selected in the person of Frederic A. Chase, Los Angeles. Mr. Chase is already known in some segments of the industry, having worked with the AGC during the war years. He was introduced to Bay Area architects at a joint meeting of the San Francisco and East Bay Chapters, AIA, on May 2. The Producers are well pleased at this constructive step taken by the Architects and we hope to have Mr. Chase with us at a regular meeting soon where he can appraise the highly satisfactory AIA-Council relationship.

ARCHITECTS' CONVENTION PLANS TAKING SHAPE

Man came around the other day to give us some advance info. Said his name was "Yosemite Bill" Rowe and it seems he has a clambake scheduled at a place named after him on or about September 28-29-30. Turns out that he is none other than William Henry Rowe, AIA, and Prexy Frank Mayo of the California Council of Architects has named him Chairman of the annual Convention. "Yosemite Bill," with one eye cocked on Fred Chase, who doesn't yet know what a workout he's in for, accepted with alacrity. So once again Northern California Architects and Producers will attempt to field a softball team that can beat up on their southern brothers. They haven't made it yet, not even with the help of beautiful (and paid off) umpires.

JUNE SPORTS MEETING SET FOR CALIFORNIA COUNTRY CLUB — JUNE 16th

Details for the annual 19 hole golf tournament and sports fest for Architects and Producers have been completed by Frank Taforo of Western Asbestos and his committee consisting of Clint Hallsted, American Lumber & Treating Company; Norman Brown, Bell & Gossett Company; Harry Goss, Zurn Mfg. Company; and Howie Noleen, E. F. Hauserman Company.

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WITH THE ENGINEERS

(From Page 31)

in this category are common corrugated metal siding, light gauge roof decks, floor panels, wall panels and cold formed structural shapes. Construction with the majority of these items commenced in the early thirties, but wide spread use was hindered by local building codes and the A.I.S.C. specifications, both of which failed to include proper consideration for this type of construction. In 1939 the American Iron & Steel Institute instigated special study of these items at Cornell, which resulted in the A.I.S.I. light gauge steel design specifications first published in 1946. Professor Winter is now engaged in research on unsymmetrical light gauge sections, particularly cold formed channels. He presented a few of the many problems involved in such a study and the results obtained from analytical and testing laboratory approaches. He further gave the conclusions that had been reached from the studies and the recommendations being given to the A.I.S.I. for inclusion in the next addition of the design manual.

ENGINEERING FIRM ORGANIZED

John H. Cline, Jr., Civil Engineer, and J. Austin Zerkle, Architect, announce the formation of a new partnership.

The firm, Cline & Zerkle, will practice architecture and engineering in offices at the Pacific Building, 610 Sixteenth Street, Oakland, California. Cline,a graduate civil engineer from the University of California, has been engaged in engineering work since 1941, with the Donald R. Warren Co., as a partner in the H. M. O'Neil Co., and, as the J. H. Cline Co. Zerkle, also a graduate and holder of a Masters Degree from the University of California School of Architecture, has been associated with Cline for the past four years in the design and supervision of construction of industrial, commercial and public buildings.

AIR CONDITIONING ASSOCIATION ELECTS OFFICERS FOR NEW YEAR

The Refrigeration and Air Conditioning Contractors Association of Southern California recently elected Hal Crumley of Pomona to serve as president of the organization for the ensuing year.

Other officers elected included Don Beck, vice-president; Dale J. Missimer, secretary; and Glenn M. Schlegel, treasurer. Directors are Chester E. Hollingworth, L. P. Jacobson, Robert W. Noll, J. Frank Park, and Ralph E. Manns.

Neal S. Templin continues as executive secretary.

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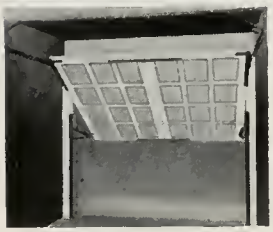

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NEWS AND COMMENT ON ART

(From Page 7)

The Museum's Pre-Columbian Collection has been enlarged by the addition of more than 60 objects from Mexico, Central and South America which have been on loan to the Museum from Mr. Earl Stendahl. The addition was obtained with funds from the estate of Dr. William Sargent Ladd, and the collection will bear his name.

The 1950 Exhibition of the work of Oregon artists includes 91 works: 59 paintings, 7 drawings, 16 prints, and 9 sculptures. Sixty-nine artists are represented from 12 Oregon communities. The exhibit was selected from 613 eligible entries submitted by 247 artists representing 36 Oregon communities.

Mrs. John W. Blodgett, Jr. Collection. The personal taste and discrimination of the collector is the standard for this group of paintings, drawings and sculptures.

Art Alliance. A special committee has been appointed by Thomas C. Colt, Jr., to draft a permanent organization for the Art Alliance. Members of the committee include: Dr. Cameron Paulin, Willamette University; Robert Banister, Klamath Falls Art Association; Joseph I. Hall, State Department of Education; Dr. Frank Hurley, Reed College; William Grand, Oregon Society of Artists, Camera Club; Mrs. R. W. Prentis, Catholic Art Association; and Alfred Corbett, Portland Art Association.

SAN FRANCISCO MUSEUM OF ART SECOND ANNUAL DECORATIVE ARTS COMPETITION

Entries for the Second Annual Decorative Arts Competition of the San Francisco Museum of Art, an event which is open to residents of Washington, Oregon, and California, should be at the Museum not later than midnight, June 8th.

Awards will be presented in September-October when the prize winning designs and products will go on exhibition at the Museum.

APPOINTED MEMBER U. S. NATIONAL COMMISSION FOR UNESCO RELATIONS

Mrs. Henry Potter Russell, long identified with the San Francisco Museum of Art, has been appointed vice chairman of the U. S. National Commission for UNESCO, according to a recent announcement by the U. S. Department of State.

Mrs. Russell replaces Justin Miller whose term has expired.

SCHOOL BOND ELECTION HELD RECENTLY

The San Rafael (California) Board of Education held a special election recently to approve the issuance of $1,441,000 in bonds for the purpose of constructing an addition to the San Rafael High School and San Rafael Elementary schools.

VARIETY OF MARBLE

(From Page 27)

cher for the relics to be embedded in it. The mensa itself is a single altar stone and bears the five crosses upon it as do portable altar stones. The twelve consoles supporting the mensa are of white cararra marble, each a single piece sculptured into mensoles in the form of the letter "S". The rubrics require that the mensa of the Altar have direct contact with the floor, hence the mensoles are in a single piece. The general style of the Altar follows as closely as possible the Renaissance style of the Church. The antependium of the Altar is of Botticino marble with red inlays on either side of the symbols of Moroccean onyx and is called "open book" or "matched marbles," because when the block is split, its veinings form a symmetrical pattern. The central symbol in the front of the altar is a pelican with its brood. The sculpture of this centerpiece is exquisite in its delicacy. Venetian gold mosaic is the background of the pelican. This gold mosaic is an old Italian trade secret which has been jealously guarded by Italian craftsmen. It consists of a thin layer of glass about one-sixteenth of an inch thick, under which is placed fourteen karat gold leaf; both of these are fused together to create the effect they do. This material is very durable and was used lavishly in Byzantine Churches. It retains its brilliancy indefinitely and paradoxically, dim light reveals its brilliancy best. Between the extreme consoles also in the front of the Altar, there are clusters of grapes and gerbs of wheat symbolic of the Eucharist.

The rear of the Altar, which is a replica of the front, is unusual because it is equally as complete and beautiful as that part of the Altar which faces the congregation. It also contains a symbol, or rather a picturization, in white marble inlay with a backing of yellow Sienna marble representing the hands of a Priest elevating the Host against the cross in the background. The rear Altar is approached by a series of five circular steps. The side panels of the Altar (the end pieces) are of yellow Sienna marble. The steps leading to the Altar are of Botticino marble with the risers of red Levanto, which is abundant in Italy in the region of La Spezia. The Altar is equipped with a tabernacle, a steel safe, the interior of which is gold plated. There are also bronze doors that are rich in symbolism in the front and back of the tabernacle. The entire tabernacle is enclosed in an outer shell of Cararra marble ornamented by a small cross. The tabernacle will also be equipped with a Tabor for exposition of the Blessed Sacrament. The six candlesticks are three feet in height and are permanently set in place on the gradine.

The Baldachino

The Baldachino erected over the Altar is of selected close-grained white Appalachian oak, carved by nationally famous artisans in La Crosse, Wisconsin. The columns of the Baldachino required much ingenuity to get into place. Because of earthquake conditions, iron girders are imbedded in concrete inside the squared wooden piers. The material for the oaken superstructure of the Altar filled a large railroad box-car and weighed 11,000 pounds. To hoist these columns, a height of about forty feet and to place them over the iron girders they were to clothe, was a breath-taking sight. Once these girders were clothed in their oaken garments, some idea of the magnitude and proper proportion of the Baldachino was obtained. The ornamentation throughout the Baldachino is in keeping with the rest of the ornamentation of the Church. Rosettes occur in the embellishment of the Church proper as well as in the Baldachino.

All ornamentation in oak was carved by hand. The triangular apex of the Baldachino is the classical form inherited from the Greeks and transplanted in the Italian style. It is called the pediment, which in ancient times used to be the ideal place for the Nobility to insert its coat-of-arms. It is here in the cartouches that the symbol of the Holy Ghost carved from a special drawing surrounded by acorn leaves and ribbon is inset. Beneath the pediment of the Baldachino drops the ornamental valence, interspersed with carved corded hangings. Dentals also are prominent in the Baldachino as they are so much in evidence in the Church, especially in the clearstory. From the corners of the pediment protrude the antefix. The Baldachino is surmounted by the traditional plain cross. Suspended from the Baldachino is a crucifix, which hangs after the manner of the Rood from the rood-screen. The cross proper is nine feet long, with the corpus about five feet. The cross is of dark oak, and the Corpus of lighter lindenwood for shaded effect. Rays emanating from the cross are highlighted with gold leaf. The cross is suspended by

(See Page 38)

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BOOK REVIEWS

PAMPHLETS AND CATALOGUES

ACOUSTICAL DESIGNING IN ARCHITECTURE. By Vern O. Knudsen and Cyril M. Harris. John Wiley & Sons, Inc., Publisher, New York. Price $7.50.

The book is divided into two sections; 1) a consideration of the general principles and procedures which form a basis for all acoustical designing, and 2) a description of specific applications of these principles and procedures. These applications include the design of auditoriums, theaters, school buildings, commercial and public buildings, homes, apartments, and hotels, churches, radio, television and sound-recording studios.

Architects, builders, acoustical engineers, heating and ventilating engineers, communications engineers, physicists, and teachers and students of architectural acoustics will find this book covers the entire field of acoustical design in architecture; practical applications are emphasized; examples of good design are worked out; complicated mathematical formulas are translated into physical explanations; charts and nomographs are given for many formulas; and comprehensive tables give pertinent data on sound absorbing materials and sound insulative structures.

ZONING AND CIVIC DEVELOPMENT. Chamber of Commerce of the United States. Washington, D. C. Price $.30.

Zoning lessons set out in the layman's language, including method of stimulating the proper growth of a community are contained in this 44-Page booklet just issued by the National Chamber.

Prepared by a special committee of five outstanding professional city planners, the book reviews lessons learned in zoning practice over the last 20 years, and presents new ideas being used by progressive communities to make zoning more effective.

CONSTRUCTION — The Bonded Contract is the Owners Protection. The Surety Association of America. 60 John Street, New York.

The nature and functions of the construction contract bond, and the advantages accruing from the bonded contract to the owner, architect and engineer, contractor, sub-contractor, and supplier, are discussed in this booklet.

Foreword by Edward H. Cushman, Philadelphia attorney who has specialized in problems of the construction industry for over thirty years.

NEW CATALOGUES AVAILABLE

Any of the catalogues or folders described here may be obtained by forwarding your request as indicated in the coupon below to the office of the ARCHITECT & ENGINEER. *Merely mark the items you want and clip or paste the coupon to your letterhead.*

159. BETTER CLASSROOM DAYLIGHTING. A new booklet by Detroit Steel Products Company tells how to improve the quantity and quality of daylight in the construction of new schools, without extra cost. The book, clearly outlines minimum daylighting requirements, shows how to bring in more daylight and improve its quality, and includes engineering proof of the method recommended. A.I.A. 16-E. 20 pages illus., 10/49.

160 AIR DIFFUSING MANUAL. A selection Manual that makes the choice of proper air diffusers much easier, has been announced by Anemostat Corporation of America. Starting with typical case examples, the manual tells how to calculate required air volume, then explains the technique of locating diffusers and determining number of units required. A.I.A. 30-D-4, 68 pages illus., 2/14/50.

161. ACOUSTICAL CEILING CONSTRUCTION. The Celetex Corporation has just published a new brochure on its newest type of suspended acoutical ceiling construction, the Acousti-Line system. This book contains drawings showing the various parts of the system and how they quickly clip together to form a perfectly level ceiling from which any 12" x 24" acoutical tile can be removed instantly for access into the back-ceiling space. 8 pages illus., 4/50.

162. FIBERDUCT UNDER FLOOR DISTRIBUTING SYSTEMS. A new booklet describing in detail the most expedient manner

for laying out and estimating Fiberduct underfloor distribution systems has just been issued by General Electric's Construction Materials Department. Written solely for the architect, engineer, and electrical contractor, the booklet contains pertinent information on where and how to use Fiberduct, how to lay out a duct system, how to make a materials take-off, and installation procedure. Handy formulae and step-by-step procedures for estimating and figuring materials are designed to simplify the work of the architect or engineer. 18-120 UF, 12 pages illus., 3/50.

163 GAS UNIT HEATERS. "Pittsburgh" gas unit heaters, Series "C", featuring cast iron heat exchangers, are illustrated and described in a revised folder just published by Automatic Gas Equipment Company. Specifications for six sizes, ranging from 85,000 to 215,000 BTU per hour, are included. A.I.A. 30-C-43, 4 pages illus., 4/50.

164. WESTERN PINE PANELING PATTERNS. Adoption of 17 paneling patterns as standard for the Western Pine Industry was announced today by the Western Pine Association. The new standard designs will be known as the WP series and are numbered from 1 to 20. They represent a consolidation and simplification of 35 patterns heretofore known as the KP and IE series, many of which were very similar in detail. Neither the KP nor IE series had ever been adopted as standard by the association. ⅜" tongue and groove and ½" lap have been adopted as standard for the new series. Wherever possible, the V has been standardized at 3/16" depth and ½" width. There are 10 tongue and groove and seven shiplap joined patterns. 4 pages illus., 4/50.

165. NEW CONCRETE INSERTS. A fully illustrated 4-page bulletin describing a new, improved, lower cost Unistrut concrete insert has just been published by Unistrut Products Company, 1013 W. Washington Blvd., Chicago 7, Illinois, and is free upon request. The bulletin describes a method of making your own inserts from short pieces of Unistrut channel and anchor-type drive-in end caps. Complete specifications and ordering information are included. A.I.A. 14-G, 4 pages illus., 4/50.

166. STORY OF TESTING FANS. The Propeller Fan Manufacturers' Association has just published a four page bulletin entitled, THE STORY OF TESTING FANS Bulletin No. 50. Intended for use of the layman the subject matter is written in non-technical language and illustrated by line drawings and photographs. The word "fan", a generic term, covers two general classes of air moving equipment having seven recognized types. Five of these types were selected for discussion in view of their special interest to the public. As fans are usually offered on the basis of performance, it is hoped THE STORY OF TESTING FANS will enable the buyer to better understand the terms, standards and methods of test in use by the Industry. A.I.A. 30-D-1, 4 pages illus., 4/50.

167. THE FACTS OF ARCHITECTURAL PORCELAIN ENAMEL. The standards of manufacture of Architectural Porcelain Enamel are outlined in the new brochure released by the Architectural Division of the Porcelain Enamel Bureau. The brochure specification forms for the erection of Architectural Porcelain Enamel Panel Units in both short and standard long form. Construction details are shown for typical installations. A.I.A. 15-H-2, 6 pages illus., 1/50.

168. TRANSLUCENT STRUCTURAL PANELS. A brochure covering all the features of Corrulux a translucent, reinforced, corrugated plastic panel which can be used in building and decorating, is available. Many modern functional effects are shown and a complete color chart with sizes of panels is included. A. I. A. 26-A-9, 4 pages illus. 4/50.

ARCHITECT AND ENGINEER,
68 Post Street, San Francisco, Calif.

I would like to have a copy of each of the New Catalogues I have circled.

159	160	161	162	163
164	165	166	167	168

Please send to the address on my letterhead, or as I have indicated, and to my attention. (Please print your name—no literature will be sent on this coupon after July 1st.—A. & E.)

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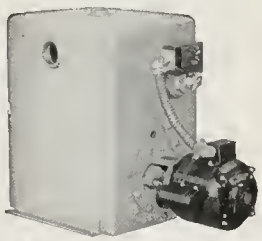

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S. C. 607 (Factory)
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MAIN OFFICE — SANTA CLARA

VARIETY OF MARBLE

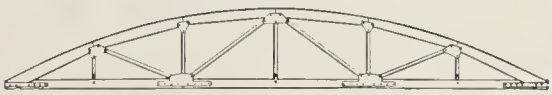
(From Page 35)

bronze fixtures and, besides serving for the liturgical crucifix of the altar, from which Calvary's Sacrifice is daily renewed, it fills with just proportion the space between the mensa and the upper reaches of the Baldachino.

At the rear of the altar there appears a commemorative inscription: "Pray for the Donors, Charles L. and Pauline E. Harney" which is chiseled into the base of the altar itself. The transformation of St. Ignatius into the Sanctuary of beauty it now presents, was entrusted to the offices of Richard W. Jung of Los Angeles, and his associates, and Mr. Moreno Tedeschi, a graduate of the Royal Academy of Arts of Bologna, Italy.

With the very paving blocks of the sanctuary composed of rare marbles from their native Italy and the High Altar containing relics of St. Ignatius specially requested from Rome, the Italian Fathers of 1849 looking down upon the new Sanctuary from the parapets of Heaven will rejoice with the latest sons of St. Ignatius that their pioneering work was not in vain. It has been carried on despite earthquake and fire and changed sites to a completed centennial cycle so that in the year of Our Lord 1949 a solemn three days of Thanksgiving on Ignatian Heights marked the twice-golden jubilee of the arrival of the first Jesuits to California.

MONOCORD TIMBER TRUSSES



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ARCHITECT SHOULD HAVE THIS BOOK

Here in one place is the information you, your staff and your clients need concerning any type of gas appliance or installation. This Gas Reference Manual costs only $7.50—is kept constantly up-to-date. Write Pacific Coast Gas Association, 447 Sutter Street, San Francisco 8, California.

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GAS

BETTER • QUICKER • CHEAPER

CONSTRUCTION EMPLOYER'S COUNCIL NAMES OFFICERS FOR ENSUING YEAR

Glen E. Arbogast, electrical contractor, has been elected president of the Construction Employer's Council of Los Angeles for the year 1950.

Other officers elected included Frank E. Hess, 1st vice president; Robert E. Power, 2nd vice president, and Neal S. Templin, secretary-treasurer.

The Council is made up from sixteen trade associations in the construction field.

NEW Y.M.C.A. BUILDING

The Young Mens Christian Association of Stockton have announced the plans for construction of a three story and basement building at the corner of Park and Center Streets to cost an estimated $300,000.

The building of reinforced concrete and structural steel construction, will contain a gymnasium, swimming pool, shower and locker room, meeting and recreation rooms, offices and forty four sleeping rooms.

John U. Clowdsley, Stockton, is the architect.

NEW APARTMENT BUILDING

An apartment house building containing 140 one- and two-room apartments is being built on El Camino in San Mateo, according to a recent announcement by Angus McSweeney, San Francisco, architect.

Of reinforced concrete construction the building will contain 11 stories, with basement garage, high speed elevators, and modern all metal kitchens fully equipped with latest electrical appliances.

Cost of the project is estimated at $1,500,000.

ERIC Mendelsohn, San Francisco architect, has been commissioned to design an American memorial to the six million Jews slain in Europe. The memorial to be erected in New York City.

ESTIMATOR'S GUIDE

BUILDING AND CONSTRUCTION MATERIALS

PRICES GIVEN ARE FIGURING PRICES AND ARE MADE UP FROM AVERAGE QUOTATIONS FURNISHED BY MATERIAL HOUSES TO SAN FRANCISCO CONTRACTORS. 3% SALES TAX ON ALL MATERIALS BUT NOT LABOR

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

BONDS—Performance or Performance plus Labor and Material Bond(s), $10 per $1000 on contract price. Labor & Material Bond(s) only, $5.00 per $1000 on contract price.

BRICKWORK—

Common Brick—Per 1M laid—$100.00 up (according to class of work).

Face Brick—Per 1M laid—$200.00 and up (according to class of work).

Brick Steps—$3.00 and up.

Common Brick Veneer on Freme Bldgs.—Approx. $1.20 and up—according to class of work).

Face Brick Veneer on Frame Bldgs.—Approx. $2.00 and up (according to class of work).

Common Brick—$34.00 per M—truckload lots, delivered.

Face Brick—$81.00 to $106.00 per M, truckload lots, delivered.

Mantel Fire Brick—$90.00 per M—F.O.B. Pittsburgh.

Fire Brick—Per M—$96.00 to $130.00.

Cartage—Approx. $9.00 per M.

Paving—$75.00.

BUILDING PAPER & FELTS

1 ply per 1000 ft. roll	$5.30
2 ply per 1000 ft. roll	7.80
3 ply per 1000 ft. roll	9 70
Brownskin, Standard 500 ft. roll	6.85
Sisalkraft, reinforced, 500 ft. roll	7.00
Sheathing Papers—	
Asphalt sheathing, 15-lb. roll	$1.98
30-lb. roll	2.93
Campcourse, 216-ft. roll	2.95
Blue Plasterboard, 60-lb. roll	5.10
Felt Papers—	
Deadening felt, ¾-lb., 50-ft. roll	$3.13
Deadening felt, 1-lb.	3.69
Alphalt roofing, 15 lbs.	1.98
Asphalt roofing, 30 lbs.	2.93
Roofing Papers—	
Standard Grade, 108-ft. roll, Light	$1.74
Medium	2.03
Heavy	2.40
Extra Heavy	2 77

BUILDING HARDWARE—

Sash cord com. No. 7	$2.65 per 100 ft.
Sash cord com. No. 8	3.80 per 100 ft.
Sash cord spot No. 7	3.65 per 100 ft.
Sash cord spot No. 8	4.00 per 100 ft.
Sash weights, cast iron, $100.00 ton.	
1-Ton lots, per 100 lbs.	$3.75
Less than 1-ton lots, per 100 lbs.	$4.75
Nails, per keg, base	$11.00
8-in. spikes	11.00
Rim Knob lock sets	3.50
Butts, dull brass plated on steel, 3½x3½	.71

CONCRETE AGGREGATES—

The following prices net to Contractors unless otherwise shown. Carload lots only

	Bunker per ton	Del'd per ton
Gravel, all sizes	$2.44	$2.90
Top Sand	2.38	3.13
Concrete Mix	2 38	3 06
Crushed Rock, ¼" to ¾"	2.38	2.90
Crushed Rock, ¾" to 1½"	2.38	2.90
Roofing Gravel	2.81	2.90
River Sand	2.50	3.00
Sand—		
Lapis (Nos. 2 & 4)	3.56	3 94
Olympia (Nos. 1 & 2)	3.56	3 88

Cement—

Common (all brands, paper sacks), carload lots, $3.39 per bbl. f.o.b. car; delivered $3.60.

Per Sack, small quantity (paper) $1.00

Carload lots, in bulk per bbl. 2.79

Cash discount on carload lots, 10c a bbl., 10th Prox., less than carload lots $4.00 per bbl. f.o.b. warehouse or delivered.

Cash discount 2% on L.C.L.

Trinity White, Medusa White — 1 to 100 sacks, $3.13 sack warehouse or del.; $9.56 bbl. carload lots

CONCRETE READY-MIX—

1-2-4 mix, to 10 yards*	$11.15
10 to 100* yards	10.15
100 to 500 yards.	9.65
Over 500 yards	9.45

* Delivered to site.

CONCRETE BLOCKS—

	Haydite	Basalt
4x8x16-inches, each	$.16	$.16
6x8x16-inches, each	.21	.21
8x8x16-inches, each	.25	.25
12x8x16-inches, each	.33	.375
12x8x24-inches, each.		.60

Haydite Aggregates—

¾-inch to ⅜-inch, per cu. yd. $6.50

⅜-inch to ⅛-inch, per cu. yd. 6.50

⅛-inch to 0-inch, per cu. yd. 7.00

DAMPPROOFING and Waterproofing—

Two-coat work, $9.00 per square.

Membrane waterproofing—4 layers of saturated felt, $10.00 per square.

Hot coating work, $5.00 per square.

Medusa Waterproofing, $3.50 per lb. San Francisco Warehouse.

Tricosal concrete waterproofing. 50c a cubic yd. and up.

ELECTRIC WIRING—$15 to $20 per outlet for conduit work (including switches).

Knob and tube average $6.00 per outlet. (Available only for priority work.)

ELEVATORS—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing a slow speed automatic passenger elevator in small four story apartment building, including entrance doors, about $8000.00.

EXCAVATION—

Sand, $1.00; clay or shale, $1.50 per yard.

Trucks, $30 to $45 per day.

Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

FIRE ESCAPES—

Ten-foot galvanized iron balcony, with stairs, $250 installed on new buildings; $300 on old buildings.

FLOORS—

Composition Floors, such as Magnesita, 50c per square foot.

Linoflor—2 gages—$3.00 per sq. yd.

Mastipave—$1.50 per sq. yd.

Battleship Linoleum—⅛"—$3.50 sq. yd.; 3/16"—$3.50 sq. yd.

Terazzo Floors—$1.50 per sq. ft.

Terazzo Steps—$2.50 per lin. ft.

Mastic Wear Coat—according to type—20c to 35c.

Hardwood Flooring—

Standard Mill grades not available.

Victory Oak—T & G

⅜ x 2¼"	$252.00 per M. plus Cartage
½ x 2"	$210.00
½" x 1½"	200.00

Prefinished Standard & Better Oak Flooring

⅜ x 3¼"	$265.00 per M. plus Cartage
½ x 2½"	237.00 per M. plus Cartage

Maple Flooring

⅜" T & G Clear	$330.00 per M. plus Ctg.
2nd	305.00 per M. plus Ctg.
3rd	255.00 per M. plus Cta

Floor Layers' Wage, $2.35 hr. (Legal as of Nov. 1, 1949. Given us by Inlaid Floor Co.)

GLASS—

Single Strength Window Glass	$ .27 per □ ft.
Double Strength Window Glass	.38 per □ ft.
Plate Glass, ¼ polished to 75	1.10 per □ ft.
Plate Glass, ¼ polished, 75 to 100	1 40 per □ ft.
¼ in. Polished Wire Plate Glass	2.00 per □ ft.
¼ in. Rgh. Wire Glass	.64 per □ ft.
Obscure Glass	.45 per □ ft.

Glazing of above is adidtional.

Glass Blocks. $2.75 per □ ft. set in place

HEATING—

Average, $2.50 to $3.00 per sq. ft. of radiation, according to conditions.

Warm air (gravity) average $64 per register.

Forced air average $91 per register.

INSULATION AND WALLBOARD—

Rockwool Insulation—
(2") ..... $65.00 per M sq. ft.
Cotton Insulation—Full-thickness
(3⅜") ..... $95.50 per M sq. ft.
Siselation Aluminum Insulation—Aluminum coated on both sides..... $23.50 per M sq. ft.
Tileboard—4'x6' panel ..... $9.00 per panel
Wallboard—½" thickness ..... $55.00 per M sq. ft.
Finished Plank ..... $69.00 per M sq. ft.
Ceiling Tileboard ..... $69.00 per M sq. ft.

IRON—Cost of ornamental iron, cast iron, etc., depends on designs.

LUMBER—

No. 1 Common..... $85.00 per M
No. 2 Common..... 83.00 per M
Select O. P. Common..... 90.00 per M

Flooring—

	Per M Delvd.
V.G.-D.F. B & Btr. 1 x 4 T & G Flooring	$225.00
"C" and better—all	225.00
"D" and better—all	225.00
Rwd. Rustic—"A" grade, medium dry, 6 to 24 ft.	185.00
"B" grade, medium dry	150.00
Plywood	18c to 20c per ft.
Plyscord	11½c per ft.
Plywall	9c per ft.
Plyform	15c per ft.

Shingles (Rwd. not available)—

Red Cedar No. 1—$9.50 per square; No. 2, $7.00; No. 3, $5.00.
Average cost to lay shingles, $6.00 per square.
Cedar Shakes—½" to ¾" x 24/26 in handsplit tapered or split resawn, per square..... $15.25
¾" to 1¼" x 24/26 in split resawn, per square 17.00
Average cost to lay shakes,— 8.00 per square

MARBLE—(See Dealers)

METAL LATH EXPANDED—

Standard Diamond, 3.40, Copper Bearing, per carloads, per 100 sq. yds.. $39.00
Standard Ribbed, ditto..... $41.00

MILLWORK—Standard.

D. F. $150 per 1000. R. W. Rustic $175 per 1000 (delivered).
Double hung box window frames, average with trim, $12.50 and up, each.
Complete door unit, $15 to $25.
Screen doors, $8.00 to $12.00 each.
Patent screen windows, $1.25 a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., upper $9.00 to $11.00; lower $12.00 to $13.00.
Dining room cases, $20.00 per lineal foot. Rough and finish about $1.00 per sq. ft.
Labor—Rough carpentry, warehouse heavy framing (average), $75.00 per M.
For smaller work average, $85.00 to $100. per 1000.

PAINTING—

Two-coat work ..... per yard 85c
Three-coat work ..... per yard $1.10
Cold water painting..... per yard 25c
Whitewashing ..... per yard 15c

Linseed Oil, Strictly Pure (Basis 7¾ lbs. per gal.)		Wholesale Raw	Boiled
Light iron drums	per gal.	$2.02	$2.08
5-gallon cans	per gal.	2.14	2.20
1-gallon cans	each	2.26	2.32
Quart cans	each	.62	.64
Pint cans	each	.34	.35

Turpentine (Basis, 7.2 lbs. per gal.)	Pure Gum Spirits
Light iron drums	per gal. $1.00
5-gallon cans	per gal. 1.12
1-gallon cans	each 1.24
Quart cans	each .38
Pint cans	each .23

Replacement Oil—$2.75 per gal. in drums. $2.75 per gal. in 5-gal. containers.
Use Replacement Oil.....$3.00 per gal. in 1 gal. cont.
A deposit of $7.50 required on all drums.

PATENT CHIMNEYS—

6-inch ..... $2.50 lineal foot
8-inch ..... 3.00 lineal foot
10-inch ..... 4.00 lineal foot
12-inch ..... 5.00 lineal foot

PLASTER—

Neat wall, per ton delivered in S. F. in paper bags, $17.60.

PLASTERING (Interior)—

	Yard
3 Coats, metal lath and plaster	$3.00
Keene cement on metal lath	3.50
Ceilings with ¾ hot roll channels metal lath (lathed only)	3.00
Seilings with ¾ hot roll channels metal lath plastered	4.50
Single partition ¾ channel lath 1 side (lath only	3.00
Single partition ¾ channel lath 2 inches thick plastered	8.00
4-inch double partition ¾ channel lath 2 sides (lath only)	5.75
4-inch double partition ¾ channel lath 2 sides plastered	8.75
Thermax single partition; 1" channels; 2¼" overall partition width. Plastered both sides	7.50
Thermax double partition; 1" channels; 4¾" overall partition width. Plastered both sides	11.00
3 Coats over 1" Thermax nailed to one side wood studs or joists	4.50
3 Coats over 1" Thermax suspended to one side wood studs with spring sound isolation clip	5.00

Note—Channel lath controlled by limitation orders.

PLASTERING (Exterior)—

	Yard
2 coats cement finish, brick or concrete wall	$2.50
3 coats cement finish, No. 18 gauge wire mesh	3.50

Lime—$4.00 per bbl. at yard.
Processed LLiLme—$4.15 per bbl. at yard.
Rock or Grip Lath—⅜"—30c per sq. yd.
⅝"—29c per sq. yd.

Composition Stucco—$4.00 sq. yard (applied).

PLUMBING—

From $200.00 per fixture up, according to grade, quality and runs.

ROOFING—

"Standard" tar and gravel, 4 ply—$11.00 per sq. for 30 sqs. or over.
Less than 30 sqs. $14.00 per sq.
Tile $40.00 to $50.00 per square.
No. 1 Redwood Shingles in place, 4½ in. exposure, per square..... $18.25
5/2 No. 1 Cedar Shingles, 5 in. exposure, per square..... 14.50
5/8 x 16"—No. 1 Little Giant Cedar Shingles, 5" exposure, per square.. 18.25
4/2 No. 1-24" Royal Cedar Shingles 7½" exposure, per square..... 23.00
Re-coat with Gravel $5.50 per sq.
Asbestos Shingles $35 to $45 per sq. laid.
½ to ¾ x 25" Resawn Cedar Shakes, 10" Exposure $24.00
¾ to 1¼ x 25" Resawn Cedar Shakes, 10" Exposure $29.00
1 x 25" Resawn Cedar Shakes, 10" Exposure 22.00
Above prices are for shakes in place

SEWER PIPE—

C.I. 6-in. to 24-in. B. & S. Class B and heavier, per ton..... $99.50
Vitrified, per foot:
Standard, 8-in. ..... $ .60
Standard, 12-in. 1.17
Standard, 24-in. 5.04
Clay Drain Pipe, per 1,000 L.F. in carload lots:
Standard, 6-in. $211.00
Standard, 8-in. 352.00

SHEET METAL—

Windows—Metal, $2.50 a sq. ft.
Fire doors (average), including hardware $2.80 per sq. ft., size 12'x12'. $3.75 per sq. ft., size 3'x6'.

SKYLIGHTS—(not glazed)

Copper, $1.25 sq. ft. (flat).
Galvanized iron, 65c sq. ft. (flat).
Vented hip skylights, $1.50 sq. ft.

STEEL—STRUCTURAL—

$220 per ton erected, when out of mill.
$270 per ton erected, when out of stock.

STEEL REINFORCING—

$200.00 per ton, in place.

¼-in. Rd. (Less than 1 ton)	$7.65
⅜-in. Rd. (Less than 1 ton)	6.55
½-in. Rd. (Less than 1 ton)	6.25
⅝-in. Rd. (Less than 1 ton)	6.00
¾-in. & ⅞-in. Rd. (Less than 1 ton)	5.90
1-in. & up (Less than 1 ton)	5.85

1 ton to 5 tons, deduct 15c.

STORE FRONTS (None available)

TILE—

Ceramic Tile Floors—Commercial $1.15 to $1.50.
Cove Base—$1.35 per lin. ft.
Tile Wainscot & Floors—Residential $1.50 to $1.75.
Tile Wainscot—Commercial $1.35 to $1.50.
Asphalt Tile Floor ⅛" x ⅜"—$ .40 per sq. ft. Light shades slightly higher.
Cork Tile—$1.00 per sq. ft.
Mosaic Floors—See dealers.
Lino-Tile—$1.00 per sq. ft.

Wall Tile—

Glazed Terra Cotta Wall Units (single faced) laid in place—approximate prices:

2 x 6 x 12	$1.25 sq. ft
4 x 6 x 12	1.50 sq. ft
2 x 8 x 16	1.45 sq. ft.
4 x 8 x 16	1.75 sq. ft.

Building Tile—

8x5½x12-inches, per M	$139.50
6x5½x12-inches, per M	105.00
4x5½x12-inches, per M	84.00

Hollow Tile—

12x12x2-inches, per M	$116.00
12x12x3-inches, per M	124.00
12x12x4-inches, per M	140.00
12x12x6-inches, per M	186.00

F.O.B. Plant

VENETIAN BLINDS—

75c per square foot and up. Installation extra.

WINDOWS—STEEL—

60c per square foot, $5 for ventilators.

ARCHITECT AND ENGINEER
ESTIMATOR'S DIRECTORY
Building And Construction Materials

EXPLANATION—Building and construction materials are shown in major classified groups for general identification purposes with names and addresses of suppliers of materials listed in detail under group classification where name first appears—main offices are shown first, with branch or district offices following. The numeral appearing in listings refers to the major group classification where complete data on the dealer, or representative, may be found.

HITECTURAL VENEER (a)
mic Veneer
CIFIC CLAY PRODUCTS
n Francisco: 605 Market St., GA 1-3970
s Angeles, Portland, Salt Lake City
LADDING, McBEAN & CO. *(1)
lain Veneer
ORCELAIN ENAMEL PUBLICITY BUREAU
ept. AE-450)
om 601, Franklin Building, Oakland 12, California
O. Box 186, East Pasadena Station, Pasadena 8, lifornia
ite Veneer
RMONT MARBLE COMPANY
n Francisco: 525 Market Street, SU 1-6747
le Veneer
RMONT MARBLE COMPANY
n Francisco: 525 Market Street, SU 1-6747

KWORK (1)
Brick
ADDING, McBEAN & CO.
n Francisco: Harrison at 9th Sts., UN 1-7400
Angeles: 2901 Los Feliz Blvd., OL 2121
fices at Portland, Seattle, Spokane
AFTILE
les, California, Niles 3611
n Francisco 5: 50 Hawthorne St., DO 2-3780
Angeles 13: 406 South Main St., MU 7241
MILLARD-DANDINI CO.
n Francisco: 400 Montgomery St., EX 2-4988

DING PAPER & FELTS (2)
ALKRAFT COMPANY
n Francisco: 55 New Montgomery St., EX 2-3066
icago, Ill.: 205 West Wacker Drive
GIER PACIFIC CORP.
n Francisco 5: 55 New Montgomery St., DO 2-4416
Angeles: 7424 Sunset Boulevard

DING HARDWARE (3)
E STANLEY WORKS
n Francisco: Monadnock Bldg., YU 6-5914
w Britain, Conn.

ENT (c)
CIFIC PORTLAND CEMENT
n Francisco: 417 Montgomery St., GA 1-4100

CRETE AGGREGATES (4)
weight Aggregates
ERICAN PERLITE CORP.
hmond, Calif.: 26th & B Sts.—Yard 2, RI 4307

ESCAPES (5)
ULE STEEL
Francisco: 1750 Army St., VA 4-4141
Angeles, Calif.—LA 0911
tland, Ore.—BE 5155
ttle, Wash.—SE 3010

MICHAEL & PFEFFER IRON WORKS, INC.
San Francisco 3: Tenth & Harrison Sts., MA 1-5966

FLOORS (6)
Hardwood Flooring
HOGAN LUMBER COMPANY
Oakland: Second and Alice Sts., GL 1-6861
E. K. WOOD LUMBER CO.
Los Angeles: 4710 S. Alameda St., JE 3111
Oakland: 727 Kennedy St., KE 4-8466
Portland: 827 Terminal Sales Building

GLASS (7)
W. P. FULLER COMPANY
San Francisco: 301 Mission St., EX 2-7151
Los Angeles, Calif.
Portland, Oregon

HEATING (8)
HENDERSON FURNACE & MFG. CO.
Sebastopol, Calif.
S. T. JOHNSON CO.
Oakland 8: 940 Arlington Ave., OL 2-6000
San Francisco: 585 Potrero Ave., MA 1-2757
Philadelphia 8, Pa.: 401 No. Broad St.
SCOTT COMPANY
San Francisco: 243 Minna St., YU 2-0400
Oakland: 113 - 10th St., GL 1-1937
San Jose, Calif.
Los Angeles, Calif.
THOMAS B. HUNTER (Designer)
San Francisco: 41 Sutter St., GA 1-1164

INSULATION AND WALLBOARD (9)
LUMBER MANUFACTURING CO.
San Francisco: 225 Industrial Ave., JU 7-1760
SISALKRAFT COMPANY *(2)
WESTERN ASBESTOS COMPANY
San Francisco: 675 Townsend St., KL 2-3868
Oakland: 251 Fifth Avenue, GL 1-2345
Sacramento: 1224 I Street, 2-8993
Stockton: 1120 E. Weber Ave., 4-1863
Fresno: 1837 Merced Street, 3-3277
San Jose: 201 So. Market St., BA 4359-J

IRON—Ornamental (10)
MICHEL & PFEFFER IRON WORKS, INC.* (5)

LIGHTING FIXTURES (11)
SMOOT-HOLMAN COMPANY
Inglewood, Calif., OR 8-1217
San Francisco: 55 Mississippi St., MA 1-8474

LUMBER (12)
HOGAN LUMBER COMPANY *(6)
LUMBER MANUFACTURING CO. *(9)
E. K. WOOD LUMBER CO *(6)
Shingles
SIDEWALL LUMBER COMPANY
San Francisco 24: 1995 Oakdale Ave., AT 2-8112

MARBLE (13)
VERMONT MARBLE COMPANY
San Francisco: 525 Market St., SU 1-6747
Los Angeles 4: 3522 Council St., FA 7834

METAL LATH EXPANDED (14)
FORDERER CORNICE WORKS
San Francisco: 269 Potrero Ave., HE 1-4100
SOULE STEEL *(5)

MILLWORK (15)
PACIFIC MANUFACTURING COMPANY
San Francisco: 16 Beale St., GA 1-7755
Santa Clara: 2610 The Alameda, SC 607
Los Angeles: 6820 McKinley Ave., TH 4196
MULLEN MANUFACTURING COMPANY
San Francisco: 60-80 Rausch St., UN 1-5815
LUMBER MANUFACTURING COMPANY *(9)

PAINTING (16)
Paint
W. P. FULLER COMPANY *(7)

PLASTER (17)
Exteriors
PACIFIC PORTLAND CEMENT COMPANY*(4)
Interiors—Metal Lath & Trim
FORDERER CORNICE WORKS *(14)

PLASTIC CEMENT (f)
PACIFIC PORTLAND CEMENT CO.
San Francisco: 417 Montgomery St., GA 1-4100

PLUMBING (18)
THE SCOTT COMPANY *(8)
THE HALSEY TAYLOR COMPANY
Redlands, Calif.
Warren, Ohio
HAWS DRINKING FAUCET COMPANY
Berkeley 10: 1435 Fourth St., LA 5-3341
CONTINENTAL WATER HEATER COMPANY
Los Angeles 31: 1801 Pasadena Ave., CA 6178
SIMONDS MACHINERY COMPANY
San Francisco: 816 Folsom St., DO 2-6794
Los Angeles: 455 East 4th St., MU 8322
SECURITY VALVE COMPANY
Los Angeles 31: 410 San Fernando Rd., CA 6191

SEWER PIPE (19)
GLADDING, McBEAN & CO. *(1)

PACIFIC CLAY PRODUCTS
San Francisco: 605 Market St., GA 1-3970
Los Angeles, Portland, Salt Lake City

SHEET METAL (20)

Windows

DETROIT STEEL PRODUCTS COMPANY
Oakland 8: 1310 - 63rd St., OL 2-8826
San Francisco: Russ Building, DO 2-0890

MICHEL & PFEFFER IRON WORKS, INC. *(5)
SOULE STEEL COMPANY *(5)

Fire Doors

DETROIT STEEL PRODUCTS COMPANY

Skylights

DETROIT STEEL PRODUCTS COMPANY

STEEL—STRUCTURAL (21)

HERRICK IRON WORKS
Oakland: 18th & Campbell Sts., GL 1-1767

JUDSON PACIFIC-MURPHY CORP.
Emeryville: 4300 Eastshore Highway, OL 3-1717

REPUBLIC STEEL CORP.
San Francisco: 116 N. Montgomery St., GA 1-0977
Los Angeles: Edison Building
Seattle: White-Henry-Stuart Building
Salt Lake City: Walker Bank Building
Denver: Continental Oil Building

KRAFTILE COMPANY *(1)

SAN JOSE STEEL COMPANY
San Jose: 195 North Thirtieth St., CO 4184

STEEL—REINFORCING (22)

REPUBLIC STEEL CORP. *(21)
HERRICK IORN WORKS *(21)
SAN JOSE STEEL CO. *(21)

TILE (23)

GLADDING, McBEAN & CO. *(1)
KRAFTILE COMPANY *(1)

PACIFIC CLAY PRODUCTS
San Francisco: 605 Market St., GA 1-3970
Los Angeles, Portland, Salt Lake City

TIMBER—REINFORCING (6)

Trusses

WEYERHAEUSER SALES CO.
Tacoma, Wash.
St. Paul, Minn.
Newark, N. J.

Treated Timber

J. H. BAXTER CO.
San Francisco 4: 333 Montgomery St., DO 2-3883
Los Angeles 13: 601 West Fifth St., MI 6294

WALL TILE (24)

GLADDING, McBEAN & CO. *(1)
KRAFTILE COMPANY *(1)

WINDOWS STEEL (25)

DETROIT STEEL PRODUCTS CO. *(20)

MICHEL & PFEFFER IRON WORKS, INC
SOULE STEEL COMPANY *(5)

GENERAL CONTRACTORS (26)

DINWIDDIE CONSTRUCTION COMPA
San Francisco: Crocker Building, YU 6-27

CLINTON CONSTRUCTION COMPAN
San Francisco: 923 Folsom St., SU 1-3440

MATTOCK CONSTRUCTION COMPAN
San Francisco: 604 Mission St., GA 1-551

STOLTE, INC.
Oakland: 8451 San Leandro Blvd., TR 2-1

SWINERTON & WALBERG COMPANY
San Francisco: 225 Bush St., GA 1-2980
Oakland: 1723 Webster St., HI 4-4322
Los Angeles, Sacramento, Denver

P. J. WALKER COMPANY
San Francisco: 391 Sutter St., YU 6-5916
Los Angeles: 3920 Whiteside St., AN 9-8

TESTING LABORATORIES (ENGINEERS & CHEMISTS) (27)

ABBOT A. HANKS, INC.
San Francisco: 624 Sacramento St., GA 1-

ROBERT W. HUNT COMPANY
San Francisco: 251 Kearny St., EX 2-4634
Los Angeles: 3050 E. Slauson, JE 9131
Chicago, New York, Pittsburgh

PITTSBURGH TESTING LABORATORY
San Francisco: 651 Howard St., EX 2-1747

BUILDING TRADES WAGE (JOB SITES) NORTHERN, CENTRAL AND SOUTHERN CALIFORNIA

ATTENTION: The following are the PREVAILING hourly rates of compensation being paid and in effect by employers by agreement between employees and their union; or as recognized and determined by the U. S. Department of Labor. (Revised to Sept. 1, 1949.)

CRAFT	San Francisco	Alameda	Contra Costa	Fresno	Sacramento	Santa Clara	Solano	Stockton	Los Angeles	San Bernardino	San Diego	Santa Barbara	Kern
ASBESTOS WORKERS	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.25	$2.25	$2.25	$2.25	$2.25
BRICKLAYERS	3.00*	3.00	3.00	2.50	3.00	3.00	3.00	2.05*	2.265	2.50	2.50	2.625	2.50
BRICKLAYERS, HODCARRIERS	2.25	2.25	2.25	2.00	2.00	1.75	2.25	1.60*	1.75	1.75	1.75	1.75	1.75
CARPENTERS	2.16	2.16	2.175	2.175	2.175	2.175	2.175	2.175	2.12	2.12	2.12	2.12	2.12
CEMENT FINISHERS	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20
ELECTRICIANS	2.50	2.50	2.50	2.25	2.50	2.50	2.40	2.40	2.40	2.40	2.375	2.40	2.15
ELEVATOR CONSTRUCTORS	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.25	2.25	2.25	2.25	2.25
ENGINEERS: MATERIAL HOIST	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	1.9875	1.9875	1.9875	1.9875	1.9875
PILE DRIVER	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.32	2.32	2.32	2.32	2.32
STRUCTURAL STEEL	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.30	2.30	2.2375	2.30	2.30
GLAZIERS	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.96
IRONWORKERS: ORNAMENTAL	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.175	2.175	2.1125	2.175	2.175
REINF. RODMEN	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.20	2.20	2.20	2.20	2.20
STRUCTURAL	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.30	2.30	2.2375	2.30	2.30
LABORERS: BUILDING	1.55	1.55	1.55	1.45	1.55	1.45	1.55	1.55	1.57	1.57	1.57	1.57	1.57
CONCRETE	1.55	1.55	1.55	1.45	1.55	1.45	1.55	1.55	1.57	1.57	1.57	1.57	1.57
LATHERS	2.8125	2.8125	2.8125	2.8125	2.00*	2.50*	2.8125	2.8125	2.50	2.50	2.50	2.50	2.50
MARBLE SETTERS	2.375	2.375	2.375	2.375	2.375	2.375	2.375	2.375	2.25	2.25	2.25	2.25	2.25
MOSAIC & TERRAZZO	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.40	2.40	2.20	2.40	2.40
PAINTERS	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.00	1.90	2.10	2.18	2.25
PILEDRIVERS	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25
PLASTERERS	2.8125	2.50*	2.50*	2.25*	2.25*	2.50*	2.50*	2.8125	2.50	2.75	2.50	2.50	2.50
PLASTERERS, HODCARRIERS	2.50	2.25*	2.25*	1.775*	2.00*	2.00*	2.25*	2.16	2.15	2.25	2.30	2.00	2.00
PLUMBERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
ROOFERS	2.25	2.25	2.25	1.875	2.00	2.00	2.16	2.25	2.25	2.00	1.90	2.00	2.00
SHEET METAL WORKERS	2.25	2.25	2.25	2.125	2.30	2.40	2.125	2.125	2.15	2.15	2.175	2.00	2.15
SPRINKLER FITTERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.25	2.25	2.25	2.25	2.25
STEAMFITTERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
STONESETTERS (MASONS)	3.00	2.8125	2.8125	2.25*	2.8125	2.8125	2.8125	2.05*	1.50	1.50	1.50	2.625	1.715
TILESETTERS	2.675	2.675	2.675	2.15	2.00	2.675	2.675	2.4375	2.50	2.50	2.20	2.50	2.25

* 6 Hour Day. ** 7 Hour Day.

Prepared and compiled by:
CENTRAL CALIFORNIA CHAPTER, ASSOCIATED GENERAL CONTRACTORS OF AMERICA, with the assistance and cooperation of secretaries of General Contractors Associations and Builders Exchanges of Northern California; and the above information for southern California is furnished by the Labor Relations Department of the Southern California Chapter, ASSOCIATED GENERAL CONTRACTORS OF AMERICA.

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A.I.A. ACTIVITIES

(From Page 29)

contemporary Pacific Northwest architecture answer the needs and economic limitations of today's church?" The afternoon session (from 3:00 P. M. to 6:30 P. M.) was devoted to laying the ground work and establishing the issues for the town meeting discussion after dinner. Comments on the conference have been gratifying, and all responsible for the idea and setting up the program, as well as those who participated in the conference should be congratulated. Special Chapter commendation goes to Public Information Committee Chairman John Detlie and his entire committee and to Public Relations Counsel Jerry Hoeck. The Bulletin hopes to have a more complete report on the meeting in the next issue.

* * *

NEW MEMBERS. Frank O. Jacks and Merrill S. Probst have been made Junior and Student Associate Members.

SAN JOAQUIN VALLEY CHAPTER

Fred L. Swartz, president, reported recently that architects of the San Joaquin Valley area are taking a great deal of interest in organization activities despite the pressure of individual pressure.

Swartz, as Chapter president is taking part in meetings of the California Council.

AMERICAN ARCHITECTS OBJECT

American architects have refused to take part in this year's International Congress of Architects which is scheduled to be held in Warsaw, Poland, because of the disappearance there last August of Herman Fields, Cleveland architect.

Fields was last seen on August 22, 1949 as he passed through Polish customs to take a Czech plane from Warsaw to Prague. His name appeared on the manifest, but had later been crossed out. Czech authorities have claimed that he did not arrive in Prague, and inquiries by the State Department to the Polish government have brought no word of Field's possible whereabouts.

RECEIVE A.I.A. AWARDS

Edward Steichen, photographer of Ridgefield, Conn., and Joseph G. Reynolds, Jr., Boston artist and designer of stained glass windows, have been awarded medals of the A.I.A. for 1950 for distinguished work in arts relating to architecture.

The Fine Arts Medal was awarded Mr. Steichen, director of the department of photography of the Museum of Modern Art, New York and is well known for his direction of photography for the World War II film "Fighting Lady."

The Craftsmanship Medal presented to Mr. Reynolds whose windows in churches, cathedrals and chapels in America and abroad are recognized for their high attainment in stained glass design.

HALL OF JUSTICE BUILDING

The city of Oakland has announced the construction of a new Hall of Justice building which will cost approximately $2,700,000, according to Edward T. Foulkes, architect for the project.

The building, containing courtrooms, police station, jail and health department offices, will be of three- and seven-story height. It will be constructed of reinforced concrete and structural steel.

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CONSTRUCTION CONTRACTS AWARDED AND MISCELLANEOUS PERSONNEL DATA

SANITARIUM BUILDING. Niles, Alameda County: J. B. Enos, owner; 36 beds, $85,000. ARCHITECT: Chester H. Treichel. 1 story, frame and stucco construction, tile roof, concrete floor, radiant heating, asphalt tile, aluminum sash. GENERAL CONTRACTOR: N. T. Lewis, Hayward.

NEW GRAMMAR SCHOOL BUILDING. Willits, Mendocino Co., Willits Elementary School District, owner. 7 classroom, kindergarten, offices and toilet rooms, $143,000. ARCHITECT: C. A. Caulkins, Santa Rosa. Frame and stucco construction. GENERAL CONTRACTOR: D. L. Faull, Santa Rosa.

CLASSROOM & OFFICE BUILDING. Berkeley, Alameda Co., University of California, owner. $2,586,710. ARCHITECT: Weihe, Frick and Kruse, San Francisco. STRUCTURAL ENGINEER: Hall and Pregnoff, San Francisco. MECHANICAL ENGINEER: G. M. Simonson, San Francisco. Classroom building, 3 and 4 story, 130,000 sp. ft., reinforced concrete construction, some structural steel, 90 classrooms, studio theatre and F. M. radio studio. Office Building, 4 and 5 story, 99,000 sq. ft., 295 offices, reinforced concrete construction, tile roof, 4 elevators. GENERAL CONTRACTOR: Barrett & Hilo, San Francisco. HEATING AND VENTILATING CONTRACTOR: Cory & Joslin, San Francisco. PLUMBING CONTRACTOR: Scott Co., San Francisco. ELECTRICAL CONTRACTOR: Vincent Electric Motor Co., Oakland.

EL CERRITO JR. HIGH SCHOOL. El Cerrito, Contra Costa Co., Richmond Board of Education, owner. 40 classrooms, administration, library, 3 science rooms, art building, gym and assembly with stage, shower and locker rooms, $1,536,000. ARCHITECT: Miller & Warnecke, Oakland. Reinforced construction. GENERAL CONTRACTOR: Swinerton & Walberg, Oakland.

HOSPITAL BUILDING. Ceres, Stanislaus Co., Stanislaus County Memorial Hospital Assoc., owner. 106 beds, $972,035. ARCHITECT: Robert Stanton, Carmel. 2 story and basement, L shaped, reinforced concrete construction, metal stud and plaster partition, asphalt tile floors. GENERAL CONTRACTOR: Stolte, Inc., Monterey.

MEDICAL BUILDING. San Leandro, Alameda Co., Owner withheld. 3 suites of offices, $47,925. ARCHITECT: Thomas M. Edwards & George H. Weimeyer, San Francisco. 1 story, concrete block and frame construction, asphalt and rubber tile floor. GENERAL CONTRACTOR: C. A. Gossett & Sons, Hayward.

CHURCH. Fort Bragg, Mendocino Co. Roman Catholic Archbishop of San Francisco, owner. $36,992. ARCHITECT: J. Clarence Felciano, Santa Rosa. Frame construction, redwood exterior, wood shingle roof. GENERAL CONTRACTOR: E. W. Markham, Fort Bragg.

ORINDA GRAMMAR SCHOOL ADDITION. Glorietta Grammar School Addition, Orinda, Contra Costa Co. Orinda Elementary School District, owner. 3 classrooms and 6 classrooms, $148,809. ARCHITECT: Jack Buchter, Orinda. Frame and stucco construction. GENERAL CONTRACTOR: David Zuckermann, Walnut Creek.

NEW BUILDERS EXCHANGE BUILDING. San Jose, Santa Clara Co.: San Jose Builders Exchange, owner. $46,000. ARCHITECT: Donnell E. Jaekle, San Jose. 1 story, 6300 sq. ft., frame and stucco construction, some reinforced concrete, structural steel. GENERAL CONTRACTOR: Sam Barth, San Jose.

GRAMMAR SCHOOL. Taylorsville, Plumas Co.: Plumas Unified School District, owner. 2 classrooms, stage, offices and toilet rooms, $44,593. ARCHITECT: Thomson & Evans, Oakland. Structural steel frame and wood exterior. GENERAL CONTRACTOR: Pacific Company, Oakland.

MULTI-PURPOSE ROOM. Richvale, Butte Co.: Richvale Elementary School District, owner. $80,219. ARCHITECT: Gordon Stafford, Sacramento. Frame and stucco construction. GENERAL CONTRACTOR: Fife & Stoddard, Gridley.

RESIDENCE. San Francisco: Graeme MacDonald, owner. $75,000. ARCHITECT: Clarence Mayhew. 3 story. GENERAL CONTRACTOR: MacDonald Products, San Francisco.

APARTMENT BUILDING. San Mateo, San Mateo Co.: J. B. Hurther, owner. 11 apartments. $120,519. ARCHITECT Wallace A. Stephen, Burlingame. 3 story, reinforced concrete and concrete block, basement, garage, frame and stucco construction. GENERAL CONTRACTOR: Williams & Burrows, Burlingame.

SALVATION ARMY BUILDING. Bakersfield, Kern Co.: Salvation Army, owner. $3,800. ARCHITECT: Robert N. Eddy, Bakersfield. 1 story, concrete block and frame construction will contain: Social Hall, Chapel, offices and work room. GENERAL CONTRACTOR: G. A. Phares, Bakersfield.

FURNITURE STORE. San Jose, Santa Clara Co.: Barbarberi Furniture Co., owner. $25-268. ARCHITECT: Dannell E. Jaekle, San Jose. 1 story and mezzanine, 44 x 125, reinforced concrete, structural steel and wood roof. GENERAL CONTRACTOR: Thos. B. Mitchell, San Jose.

APARTMENT BUILDING. San Francisco: 1000 Green Street Co., owner. $1,000,000. ARCHITECT: Oleg Ivanitsky, San Francisco. 13 story, class 1A. GENERAL CONTRACTOR: Theo Meyers & Son, San Francisco.

BOYS GYMNASIUM. Turlock, Stanislaus Co.: Turlock High School District, owner. $271,365. ARCHITECT: Mayo & Johnson, Stockton. Reinforced concrete construction, lamella roof. GENERAL CONTRACTOR: Tornell Co., Tracy.

STORE BUILDING. Redwood City, San Mateo Co.: Irving Kay & W. E. Ayer, owner. 16 stores. $53,684. ARCHITECT: Irvin W. Goldstein, San Francisco. 1 story frame construction. GENERAL CONTRACTOR: Cecil L. Smith, Menlo Park.

OFFICE & WAREHOUSE BUILDING. Redwood City, San Mateo Co.: Walker Beverage Co., owner. $43,427. ARCHITECT: Meyer & Evers, San Francisco. 1 story, reinforced concrete and frame construction. GENERAL CONTRACTOR: Morris Daley, San Mateo.

SHOP BUILDING. Weed, Siskiyou Co.: Siskiyou Joint Union High School District, owner. $33,201. ARCHITECT: Howard R. Perrin, Klamath Falls. 1 story, 4090 sq. ft., reinforced concrete. GENERAL CONTRACTOR: E. W. Barnum, Mt. Shasta.

BELL HILL GRAMMAR SCHOOL. Grass Valley, Nevada Co.: Grass Valley Elementary School District, owner. 4 classrooms, offices and toilet rooms, $78,300. ARCHITECT: Gordon Stafford, Sacramento. Frame and brick veneer construction. GENERAL CONTRACTOR: Pacific Co., Oakland.

NEWSPAPER BUILDING. Sacramento, Sacramento Co.: McClatchy Newspapers, owner. Press room, stereotyping foundry and mail room. $850,000. ENGINEER: Lockwood Green Engineers, Inc., New York. 2 story and basement, 85 x 184 and 50 x 104, wing reinforced concrete construction. GENERAL CONTRACTOR: H. W. Robertson, Sacramento.

ELKS LODGE BUILDING. Hanford, Kings Co.: Hanford Elks Hall Ass'n., owner. $124,266. ENGINEER: R. B. Welty, Fresno. 1½ stories, will contain lodge room, banquet room, kitchen, lounges and game room, air conditioning system. GENERAL CONTRACTOR: L. H. Hansen & Son, Fresno.

ELEMENTARY SCHOOL & DORMITORY BUILDING. San Rafael, Marin Co.: Dominican College, owner. $272,893. ARCHITECT: Leonard F. Starks, Sacramento. 2 story, reinforced concrete and frame construction. GENERAL CONTRACTOR: Younger & Hallsteen, San Francisco.

OFFICE BUILDING REMODEL. San Francisco: Phelan Estate, owner. Approximately $1,000,000. ARCHITECT: Paul A. Ryan & John M. Lee, San Francisco. 11 story and basement, 8 new passenger elevators and remodel to lobbies, new penthouse. GENERAL CONTRACTOR: Lindgren & Swinerton, San Francisco.

CONVENT BUILDING ADDITION. Auburn, Placer Co.: Roman Catholic Diocese of Sacramento, owner. 2 wings, $271,395. ARCHITECT: Harry J. Devine, Sacramento. 1 wing, 3 story and basement, reinforced concrete construction; 1 wing, 1 story and basement, frame and stucco construction, radiant panel heating, tile roofs on new and old building. GENERAL CONTRACTOR: Erickson Construction Co., North Sacramento.

LUCKY MARKET BUILDING. San Jose, Santa Clara Co.: Lucky Stores, Inc., Lessee. $114,588. ARCHITECT: Kress & Gibson, San Jose. 1 story, 90 x 135, reinforced concrete construction, tile and plate glass front. GENERAL CONTRACTOR: E. A. Hathaway & Co., San Jose.

CHURCH. Daly City, San Mateo Co.: Grace Presbysterian Church, owner. $45,729. ARCHITECT: Donald Powers Smith, San Francisco. Frame and stucco construction. GENERAL CONTRACTOR: Joel Johnson & Son, San Francisco.

APARTMENT BUILDING. Oakland, Alameda Co.: Mr. Hyman, owner. 12 apartments, $93,000. DRAFTSMAN: Clay N. Burrell,

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Oakland. 2 story, frame and stucco construction. GENERAL CONTRACTOR: Harry K. Jensen, Oakland.

DRUG STORE. San Jose, Santa Clara Co.: Carcello Drug Store, owner. $30,500. ARCHITECT: Kress & Gibson, San Jose. 1 story, frame and stucco construction. GENERAL CONTRACTOR: Geo J. Lauer, San Jose.

WAREHOUSE BUILDING. Fresno, Fresno Co.: Thomson-Diggs Co., owner. $392,823. STRUCTURAL ENGINEER: Ernest D. Francis, Sacramento. 1 story, 350 x 500, structural steel frame and corrugated steel exterior, steel sash, truck height concrete floor. GENERAL CONTRACTOR: Midstate Construction Co., Fresno.

TUBERCULOSIS HOSPITAL. Redwood City, San Mateo Co.: County of San Mateo, owner. $1,331,550. ARCHITECT: D. D. Stone & L. Mulloy, San Francisco. 3 story, reinforced concrete construction, steel sash, asphalt tile and tile terrazzo floors, acoustical tile. 2 elevators. GENERAL CONTRACTOR: Howard J. White, Inc., Palo Alto.

CASTELMONT HIGH SCHOOL ADDITION. Oakland, Alameda Co.: Oakland Board of Education, owner. Classroom building. $525,100. ARCHITECT: Miller & Warnecke, Oakland. 2 story, reinforced concrete construction, 38,000 square feet. GENERAL CONTRACTOR: Monson Brothers, San Francisco.

BOWLING ALLEY BUILDING. San Jose, Santa Clara Co.: Industrial Assets Co., owner. 16 alleys, cocktail lounge and restaurant, $100,731. ARCHITECT: Gifford E. Sobey, Los Gatos. 1 story, 17,000 sq. ft.: reinforced concrete wood roof trusses. GENERAL CONTRACTOR: W. R. Kalsched, San Jose.

RESIDENCE. Berkeley, Alameda Co.: Mr. Hodgson, owner. Frame and stucco construction. ARCHITECT: John B. Anthony, Oakland. GENERAL CONTRACTOR: Romley & Prentice, Walnut Creek.

HIGH SCHOOL. Lovelock, Pershing Co.: Pershing County High School District, owner. $277,840. ARCHITECT: Russell Mills, Reno. 1 story reinforced brick construction. GENERAL CONTRACTOR: W. H. Wine Construction Co., Reno.

SUNDAY SCHOOL. Los Gatos, Santa Clara Co.: First Church of Christ Scientist, owner. $34,283. ARCHITECT: Chas E. Butner, San Jose. Frame construction, redwood exterior. GENERAL CONTRACTOR: Roy L. Jones & Sons, Los Gatos.

OFFICE BUILDING & GARAGE BUILDING. San Francisco: S. F. Brewing Corp., owner. $500,000. ARCHITECT: Ward & Bowles, San Francisco. STRUCTURAL ENGINEER: Ray N. Moore, San Francisco. Office building; 2 story, 47 x 98, reinforced concrete construction, ceramic veneer front, air conditioning, acoustical ceilings; garage; 138 x 98, 2 story, structural steel frame and reinforced concrete. GENERAL CONTRACTOR: Cahill Bros., San Francisco.

OFFICE BUILDING. Stockton, San Joaquin Co.: Farmers Mutual Fire Insurance Company, owner. $108,470. ARCHITECT: Mayo & Johnson, Stockton. 2 story and basement, 50 x 100, reinforced concrete, concrete block, brick and terra cotta exterior. GENERAL CONTRACTOR: Geo. Roek, Stockton.

APARTMENT BUILDING. Berkeley, Alameda Co.: A Steffensen, owner. 15 apartments, $65,000. ARCHITECT: Leonard Ford, Walnut Creek. 2 story, frame and stucco construction. GENERAL CONTRACTOR: Metropolitan Builders, Oakland.

FOOD-TECHNOLOGY BUILDING. Davis, Yolo Co.: University of California, owner. $645,662. ARCHITECT. Herbert E. Goodpastor, Sacramento. STRUCTURAL ENGINEER: Ernest D. Francis. MECHANICAL ENGINEER: Clyde E. Bentley, San Francisco. 1 and 2 story, reinforced concrete construction, wood and steel roofs, approximately 52,000 sq. ft. GENERAL CONTRACTOR: Continental Construction Co., Sacramento.

HOSPITAL BUILDING. Avenal, Kern Co.: Avenal District Hospital, owner. 22 beds, $284,489. ARCHITECT: Swartz & Hyberg, Fresno. 1 story, frame and stucco construction, wood floors, asphalt tile, complete refrigeration, air conditioning and heating system. GENERAL CONTRACTOR: R. T. Dealy, Avenal.

OFFICE & SHIPPING DEPARTMENT BUILDING. Berkeley, Alameda Co.: Shand & Jurs Co., owner. $95,257. ARCHITECT: Ralph N. Kerr, San Leandro. STRUCTURAL ENGINEER: Robt. J. Fisher, San Francisco. 2 story, 60 x 80, reinforced concrete and structural steel construction. GENERAL CONTRACTOR: Oliver & Coburn, Berkeley.

GYMNASIUM BUILDING. Santa Cruz, Santa Cruz Co.: Santa Cruz Board of Education, owner. $189,411. ARCHITECT: Robert Stanton, Carmel. Frame and stucco construction. GENERAL CONTRACTOR: Orlo C. Hackbarth, Santa Cruz.

ST. PHILOMENE'S PAROCHIAL SCHOOL ADDITION. Sacramento, Sacramento Co.: Roman Catholic Diocese of Sacramento, owner. Multi-use room, $80,613. ARCHITECT: Chas. F. Dean, Sacramento. Reinforced concrete and frame construction. GENERAL CONTRACTOR: Fred K. Chapek & J. A. Waterbury, Sacramento.

OFFICE & WAREHOUSE. Yuba City, Sutter Co.: California Prune & Apricot Association, owner. $182,215. ENGINEER: W. D. Lotz, San Jose. 1 story, 126 x 290 and 119 x 240, reinforced concrete, structural steel roof trusses. GENERAL CONTRACTOR: Remmet Construction Co., Palo Alto.

SUNDAY SCHOOL ADDITION. Turlock, Stanislaus Co.: Bethel Church, owner. $50,000. ARCHITECT: G. N. Hilburn, Modesto. Reinforced concrete, concrete block and frame construction.

CHURCH & RECTORY. Millbrae, San Mateo Co.: Roman Catholic Archbishop of San Francisco, owner. St. Dunston's Parish, $163,333. ARCHITECT: Martin J. Rist, San Francisco. Church; reinforced concrete construction; rectory; frame and stucco. GENERAL CONTRACTOR: Williams & Burrows, Burlingame.

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IN THE NEWS

SCHOOL BONDS VOTED

Voters of the Biggs-Rio Bonito School District of Butte county have approved the issuance of $50,000 in bonds for the construction of a new grammar school building comprising three classrooms.

ELECTRIC DRILLS NEW COMMODITY STANDARDS

A recommended revision of the Commercial Standard for Portable Electric Drills has been submitted by the Commodity Standards Division of the National Bureau of Standards to manufacturers, distributors, users, and other interested groups for their consideration.

The revision was approved by the Electric Tool Institute.

HIGH SCHOOL BONDS

Voters of the Oroville Union High School District, Butte County, California, have approved a bond issue of $750,000 for the construction of an addition to the high school in Oroville.

New buildings will include gymnasium, science room, shop building, garage and field house.

BUILDING OWNERS WILL CONVENE IN SEATTLE

The National Association of Building Owners and Managers will hold their 43rd annual convention in Seattle, Washington, June 11-15, according to an announcement by the group.

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It is expected more than 800 industry leaders from all parts of the United States and Canada will attend.

GRAMMAR SCHOOL BONDS LOSE

A proposal to issue $110,000 in school bonds for the purpose of constructing a new Grammar School near Fresno was recently rejected by the voters of the Chateau Fresno Union Elementary School District.

STATE FUNDS ALLOCATED

The State of California has allotted $64,740 for the construction of a new four-classroom Grammar School in Sterling (California).

SCHOOL BONDS APPROVED

Voters of the Castro Valley Elementary School District (Alameda county) recently approved an issue of $150,000 in bonds for the construction of new grammar schools in the Castro Valley.

MOTEL PROPOSED FOR PALO ALTO

The City of Palo Alto has granted a zoning permit for the construction of a new $1,000,000 motel building to be located on El Camino Real.

HIGH SCHOOL BONDS ARE APPROVED

Voters of the Live Oak High School District in Morgan Hill, Santa Clara County (California) recently approved the issuance of $250,000 in school bonds for the purpose of building an addition to the Morgan Hill High School.

GRAMMAR SCHOOL BONDS

The Bakersfield Elementary School District recently approved $1,965,000 in school bonds for the construction of a new grammar school in Bakersfield, California.

NEW SHOPPING CENTER

The California Jockey Club, owners and operators of the Bay Meadows Race Track in San Mateo, have announced the construction of a Shopping Center and the Rancho Meadows Hotel near San Mateo at an estimated cost of $1,500,000.

The hotel will consist of 300 rooms and baths, while the shopping center will comprise 20 stores and a community swimming pool, according to Wm. B. Kyne, general manager.

ATOMIC RESEARCH PROJECT ANNOUNCED FOR CALIFORNIA

The Atomic Energy Commission, Washington, D. C., has announced that the California Research & Development Company which is a subsidiary of the California Research Corporation of San Francisco, will construct an Atom Smashing Particle Accelerator plant at the Livermore Naval Air Station.

The plant will cost $7,000,000, according to Washington reports.

IMPROVEMENT BONDS VOTED

The Menlo Park Sanitary District in San Mateo County (California) recently approved $980,000 in bonds for the construction of a new sewage disposal plant.

SAN FRANCISCO SELECTS MORE ARCHITECTS FOR SCHOOL WORK

Through the Department of Public Works of the City and County of San Francisco a group of the city's architects were recently selected to draw plans for the building and remodeling of several school buildings.

The firm of Bliss & Hurt, architects, was commissioned to do an addition to the Girls High School to cost $1,000,000; A. Cantin, A. McK. Cantin & Ed B. Page, architects, the Douglas Elementary School, $400,000; Blanchard & Maher, architects, the Starr King Elementary School, $1,000,000; the firm of Kirby & Mulvin, architects, the Twin Peaks Elementary School, $450,000; Meyer & Evers, architects, the Geary Elementary School addition, $500,000; and architect Alfred W. Johnson, the Delta & Wilde Home School, $320,000.

NEW AUDITORIUM BUILDING

The San Mateo Union High School District recently announced the construction of a new High School Auditorium building for San Mateo which will seat 1600 students at a cost of $600,000.

Sharps & Brown of Burlingame are the architects. The building will be of reinforced concrete and structural steel construction.

SAN DIEGO FLOODWAY CONTRACT AWARDED

Lt. Col. James E. Walsh, C.E., Acting District Engineer Los Angeles, Corps of Engineers, U. S. Army, recently announced a construction contract on the San Diego-Mission Bay Floodway has been awarded to the Guy F. Atkinson Company of Long Beach at a cost of $2,340,600.00.

The project will include dredging, earthwork, stone jetty construction, levee construction, and stone levee bank protection.

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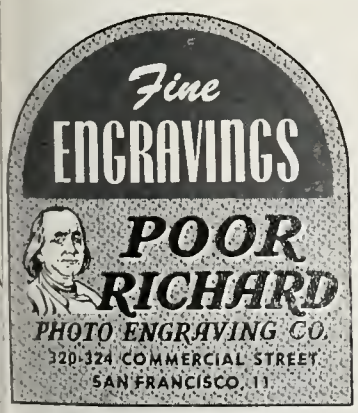

Fair which will be held there May 30 to September 9, 1951.

New construction, which will augment the $10,000,000 worth of buildings already on the site, will include a large outdoor stage, individual exhibit booths, additional rest room facilities and storage buildings.

GRAMMAR SCHOOL BONDS

Voters of the San Leandro Elementary School District recently approved a $975,000 bond issue for the construction of new grammar schools and additions.

APPOINTED CONSULTANTS TO LOS ANGELES HOUSING PLAN

Architect Reginald Johnson and Dean Arthur Gallion of the University of Southern California School of Architecture have been appointed to serve as consultants for the Los Angeles City Housing Authority.

The Authority has under development at the present time a 10,000 unit low-rent housing program.

MARIN MEMORIAL HOSPITAL

The Marin County Hospital District, San Rafael (California) has announced plans for the construction of a new 100 bed Memorial Hospital at Greenbrae.

The building will be of 4 story, with basement, reinforced concrete construction and will cost an estimated $2,076,000.

Robert Stanton of Carmel is the architect.

REGIONAL PLANNING ENGINEER FOR RECLAMATION RETIRES

Stanley A. Kerr, Regional Planning Engineer for the Bureau of Reclamation at Sacramento, retired recently after twenty-nine years of government reclamation work, the last nine of which was served in Sacramento where he had charge of general investigations of the water resources of California's Central Valley Basin, the Klamath Basin of Oregon and California, and adjacent coastal and mountain areas.

CLEVELAND GETS 1952 LIGHTING EXPOSITION

The 4th International Lighting Exposition and Conference will be held in Cleveland, May 6-9, 1952, according to a recent announcement from the Industrial and Commercial Lighting Equipment Section of the National Electrical Manufacturers Association.

Plans call for an expanded competition program and Merit Awards schedule.

HUGE INCREASE IN L.A. BUILDING

Building activity in the unincorporated areas of Los Angeles county again broke all previous records for March when approximately 7600 building permits were issued with a total valuation of $43,227,941.

Wm. J. Fox, chief of the County Building and Safety Department, said "this is almost two and one-half times the valuation for March 1949, and is 62.5 per cent above October 1949, the previous record high."

More than 70 per cent of the valuation is for residential construction.

BONDS DEFEATED

A proposal to issue $195,000 in bonds to construct a Recreation Center in San Carlos was recently defeated by the voters of that city.

OPENS ARCHITECTURAL OFFICE

Arthur D. Janssen, architect, has announced the opening of offices at 1616 El Camino, Menlo Park, California, for the general practice of architecture.

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Vol. 181 No. 3

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Book Reviews

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COVER PICTURE:

Remodel of the Koshland Building, more popularly known as Liebes', at the corner of Post and Grant Avenue, represents one of the newer retail store developments in downtown San Francisco.

The entire structure was remodeled, inside and out, to meet the requirements of Frank Werner, well known shoe firm, who now occupy the lower portion of the building.

Hertzka & Knowles were the architects, and Jacks & Irvine the General Contractors. (See story on Page 20.)

ARCHITECT & ENGINEER is indexed regularly by ENGINEERING INDEX, INC.

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. EDITORIAL NOTES .

A GOOD CREED

"To have faith in the dignity and worth of the individual man as an end in himself, to believe that it is better to be governed by persuasion than by coercion, to believe that fraternally good will be more worthy than a selfish and contemptious spirit, to believe that in the long run all values are inseparable from the love of truth and the disinterested search for it. To believe that knowledge and the power it confers should be used to promote the welfare and happiness of all men, rather than serve the interest of those individuals and classes whom fortune and intelligence endow with temporary advantage."—C. Becker.

"YOU'D BETTER BUILD NOW"

The unorganized, as well as the organized, building industry throughout the nation is currently engaged in the construction of thousands of new homes to meet the urgent need for housing with the result that such extensive activity is establishing an unprecedented record in the number and speed with which new homes are being built.

This gigantic home construction program is certain to have an effect upon building material costs, and present indications are that already lumber costs are up some thirty to one hundred per cent over last year. In many localities prices for steel and other basic building materials are on the upgrade again.

Another factor which will eventually be felt in the home building field is the recent wage increases put into effect in many major manufacturing industries, and while it may be too early to predict just what effect such wage increases will have on construction labor, it is reasonable to expect that wages in the building industry will also advance.

Considerable thought and study is being given to possible adjustment of building codes, design, construction detail, land planning and financing in an effort to reduce if possible certain construction factors. While it is too early to determine the actual effect of the recent lowering of FHA interest rates to four and one half percent, the lowering of financing costs will be important.

In all probability the net result of the home building program will see an upward trend in costs, so those who contemplate building should do so without delay.

* * *

CALIFORNIA COUNCIL OF ARCHITECTS

Frank V. Mayo, A.I.A. Architect of Stockton and President of the California Council of Architects, has announced that the annual convention of the Council is to be held September 28, 29- 30 at Yosemite National Park.

With a full time Executive Secretary, Frederick A. Chase, coordinating the activities of the profession, plus the normal keen interest in the inner-workings of architects in the construction industry, this year's convention should be a MUST.

HOME OWNER HAS DEFINITE IDEAS

What do today's home building families want included in plans and specifications when they build a new home?

A nationwide survey conducted by a building material manufacturer to determine just what Mr. and Mrs. Home Owner have in mind when they "plan" the construction of a new home, and a manufacturer who subsequently invested some $10,000 in designing a residence that would include the results of his survey, came up with these salient points:

Today's postwar family wants a one-story, three bedroom house with plenty of storage space to take care of those many items which "just accumulate." It wants the most durable, quality materials with proven worth—although in some places and in some instances, favorable consideration is given to "new ideas" in products and uses; it wants tile in the bathroom and kitchen. It wants a second bath for use by guests or growing children, or a "powder room" if bath facilities are to be limited.

Today's family likes the friendliness and compatability of a fireplace, and an openness that stimulates the feeling of freedom and individuality. It prefers a dining area that opens into the living room for greater living utility, rather than a separate dining room.

A compact kitchen, with a lot of closet space and built-in features, plus liberal use of automatic equipment and labor saving devices, are also high on the preferential list of today's home owner.

It is conceded, however, that the home which may represent Utopia to one family, may be woefully lacking in the eyes of another.

So! there will always be—new homes, new ideas, new materials, new utility uses, new architectural design, and perhaps as important as any other factor—new families.

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NEWS AND COMMENT ON ART

MUSEUM DIRECTOR GOES TO ALABAMA

Richard B. Freeman, Assistant Director in charge of the San Francisco Museum of Art during the absence of Dr. Grace L. McCann Morley, who is on leave as Head of the Museums section of UNESCO in Paris, has resigned to accept the position of head of the Department of Art at the University of Alabama.

Freeman has served as a member of the staff of the Rockhill Nelson Gallery of Art in Kansas City, the Fogg Museum of Art at Cambridge, and the Cincinnati Art Museum, and as director of the Flint (Michigan) Institute of Arts prior to coming to the West Coast.

MUSEUM OF INTERNATIONAL FOLK ART

The Museum of International Art was recently established in Santa Fe, New Mexico, with Dr. Robert Bruce as the director.

Miss Florence Diebell Bartlett, well known Chicago patron of the arts and civic worker, is building the museum proper and making a gift of her collection of world folk art as the nucleus for the new unit of the Museum of New Mexico, which is under the general direction of Hon. Boaz Long.

YOUNG ARTIST CONTEST

Applications are available for the annual Young Artist Contest on the Los Angeles campus of the University of California, according to Dr. Gustav O. Arlt, chairman of the committee on drama, lectures, and music.

To qualify for the contest, applicants must have had adequate training, as attested by teachers, and a record of previous public appearances.

Winners will appear in a joint recital next winter as one of the attractions of the U.C.L.A. 1950-51 Concert Series.

AMERICAN WOMEN SCULPTORS ARE HONORED BY FRENCH

The "New York Six," Doris Caesar, Helen Phillips, Rhys Caparn, Helena Simkhovitch, Minna Harkavy, and Arline Wingate, who first exhibited as a group in New York in 1948, have been invited to hold their second exhibition under the auspices of the City of Paris, at the Petit Palis, Paris, France, from June 28 to August 15, 1950.

AMERICAN INSTITUTION OF DECORATORS NAMES COMPETITON WINNERS

The American Institution of Decorators have awarded first place in the 1949 annual home furnishing design competition, Woven Fabric classification, to Geraldine Funk of San Juan, Puerto Rico.

In the Furniture classification the award went to William Katavalos, Douglas F. Kelley, and Ross F. Littell of Garden City, Long Island. The Furniture Accessories classification was won by James Teague of Chicago, Illinois, and in the Lighting classification the award was given to A. W. Geller and G. Nemeny of New York City.

Members of the Jury of Award, representing the fourth annual competition, included: Leopold Arnaud, Dean of the School of Architecture, Columbia University; Leslie Cheek, Jr., Honorary, A.I.D. Director, Virginia Museum of Fine Arts, Richmond, Va.; Walter Hoving, New York City; Morris Ketchum, Architect, New York City; Joseph Mullen, A.I.D., New York City; James S. Plant, Director, Institute of Contemporary Art, Boston; and Harold W. Rambusch, A.I.D., New York City.

CALIFORNIA SCHOOL OF FINE ARTS

The Summer Session at the California School of Fine Arts, 800 Chestnut Street, San Francisco, will be held from July 3rd to August 11th, with a variety of courses to be offered during the six-weeks period.

The classes in the theory and practice of painting today will be conducted by guest instructor Ad Reinhardt, noted New York painter, illustrator and teacher, who is also on the faculty of Brooklyn College. He will also deliver a series of lectures on the social, economic and philosophical problems facing the contemporary artist.

Other painting courses will be offered in oil and watercolor mediums, among them landscapes and portraits.

Drawing classes will include Life Sketch, Drawings from Nature, and Large Scale Drawing. Exhibition Presentation, Design in Space, Color, Lithography and Engraving, Silk Screen Printing, Illustration, Advertising Art, Sculpture, Ceramics, and Jewelry Design complete the courses to be offered.

The School's Photography department plans two full time courses: one on the View Camera, the other to be devoted exclusively to the Miniature Camera.

Twenty-two instructors will constitute the Summer Faculty.

PORTLAND ART MUSEUM

The Portland Art Museum, West Park and Madison streets, is currently showing the annual exhibition of the work by students in all departments of the Museum. Examples of painting, sculpture, ceramics, weaving, commercial design, composition are being shown.

The Museum Art School summer classes will be held for a six weeks period starting June 19th, with Jack McLarty, painter and instructor conducting a morning painting class which will stress the structural elements of picture making.

Other classes will include ceramics, and jewelry with Fred Farr, nationally known ceramist instructor. Classes for children will also be held during the same period.

INSTITUTE OF DESIGN OF THE ILLINOIS INSTIUTE OF TECHNOLOGY

The Summer Session, representing an intensified six-weeks study of the Institute of Design's foundation course which may be applied at the high school and college level as preparation for advanced study of Architecture, Industrial Design, Advertising and Display, Photography, Painting, and Sculpture will be held from June 26th to August 4th.

14th CERAMIC NATIONAL

The 14th Ceramic National exhibit of pottery, ceramic sculptures, and enamels will be shown on the West Coast during June, July and August in the following places: June 23-July 16 at the San Diego Fine Arts Gallery; July 26-August 16 at Los Angeles County Art Institute; and August 31—September 24th at the San Francisco Museum of Art.

The exhibit is sponsored by the Syracuse Museum of Fine Arts, Syracuse, New York.

ART GALLERY FUNDS TO HONOR ARCHITECT

A gift of approximately $400,000 to the City of Sacramento to house an Art Gallery was provided for recently in the will of Pete J. Herold, a local businessman.

According to the will the money is to be used for a building or annex to house an art exhibit, and the City has three years in which to acquire such a piece of property. If the City has not acted within the time limit the funds are to be used for the construction of a public building.

The building, or buildings, are to be erected in honor of Herold's brother, the late R. A. Herold, a former Sacramento architect.

BEAUX-ARTS DESIGN CONTEST

Designs for a small clinic submitted by architectural students throughout the nation were judged early in June at the University of Illinois.

The winning design, as selected by a jury of prominent Chicago architects will receive the annual Kenneth L. Murchison prize.

More than 300 students submitted entries in the event which is being sponsoreod by the Beaux-Arts Institute of Design, an organization founded to encourage studies in architecture and the allied arts.

CITY OF PARIS

The City of Paris, San Francisco, is featuring an exhibition of oil paintings, water colors, and drawings by Paul Coze during the month of June, in the Rotunda Art Gallery.

The Exhibit of the Month offers a selection from the 9th Annual Pacific Coast Ceramic Exhibition and features also a demonstration in the development of a painting, landscape and portraiture, which will be given by Paul Coze.

APPOINTED NEW DIRECTOR OF THE CALIFORNIA SCHOOL OF FINE ARTS

The Board of Directors of the San Francisco Art Association have appointed Ernest Karl Mundt to the post of Director of the California School of Fine Arts, succeeding Douglas MacAgy who resigned to accept a position with a film company.

Mundt, a recognized artist, art historian and teacher, has served on the faculties of the University of Michigan, Brooklyn College, and as an advisory architect for Adelphi College of Garden City, New York. He has been a member of the faculty of the California School of Fine Arts since 1947, and will take over his new duties as Director on August 1.

David Park, noted Berkeley artist and instructor in painting, will serve as the interim director.

SAN FRANCISCO MUSEUM OF ART

The San Francisco Museum of Art, War Memorial Building, Civic Center, will feature the following Exhibitions and Events during the month of June:

EXHIBITIONS: Matta, through July 23; Architecture—Variation Within A Concept by Fred and Lois Langhorst and Olaf Dahlstrand; Seventeen Painters and Seventeen Sculptors of San Francisco; Paintings by Torres-Garcia; Monotypes and Woodcuts by Antonio Frasconi; Form and Design in the Bay Region; Forty-Five Drawings and Prints by Bay Region Printmakers; Twenty Bay Region Photographers; Art Movements and Public Taste—San Francisco; 14th Annual Drawing and Print Exhibition of the San Francisco Art Association; and the Lithographic Process—Lynton Kistler.

EVENTS will include Special Gallery Tours by Nancy Bordewich and Anneliese Hoyer, featuring the 14th Annual Drawing and Print Exhibition of

(See Page 27)

AERIAL VIEW OF THE NEW TILLAMOOK COUNTY CREAMERY ASSOCIATION PLANT

NEW PLANT OF THE TILLAMOOK COUNTY CREAMERY ASSOCIATION

TILLAMOOK CITY, OREGON

ALEX STOYANOV, Engineers
DONALD M. DRAKE CO., Builders

The 1950 Diamond Jubilee Anniversary of commercial cheese making in Oregon's famed Tillamook county, was the occasion recently for celebrating the official opening of the new manufacturing plant and latest equipment additions to the Tillamook County Creamery Association's activities at Tillamook City, Oregon.

The valley in which the new plant is located is described as the "Land of cheese, trees and ocean breeze", although the Indians originally named it "Tillamook", an Indian word meaning "many waters" and quite descriptive of some seven mountain streams that cut through the valley in its sixty mile length from the Coast Range to the Pacific Ocean.

Designed by the Portland engineering firm of Alex Stoyanov for lower manufacturing handling costs and better control of production processes, and built by the Donald M. Drake Company, general contractors, the new plant is located on a twenty-five acre tract about a mile and one half north of town.

The manufacturing plant proper contains about a hundred and seventy-five thousand square feet

of floor space, or slightly more than four acres of area. Ample additional space is thereby provided on the site for convenient maneuvering of the large fleet of tank trucks and trailers, each of which holds about 20,000 pounds, and other vehicles which bring milk and raw porducts to the plant for processing. Parking space is also provided for employees automobiles and a special auto parking area for visitors is being developed as the plant property lies adjacent to U. S. Highway 101, a popular tourist route serving the Pacific Northwest, and thousands of visitors stop at the plant annually to see how Tillamook Cheese is made. Provision for this phase of plant operation projected for the future calls for the construction of a visitors gallery above the factory floor level and is being uniquely designed by the engineer in order that normal plant operations will not be hampered by a curious public. For the present time, however, visitors are being conducted through the cheese factory at the floor level of operations. Touching the plant on the other side is the railroad which provides convenient rail facilities for shipment of products to distant markets.

The new plant makes an impressive sight from the highway.

Its massive facade of floor to ceiling glass windows, facing the west towards the highway, and spick-and-span white concrete buildings present a striking contrast to the surrounding wooded hills and fields. Future plans call for extensive landscaping and even more automobile parking area arranged in a park like surrounding.

Buildings just completed represent an expansion program that was started two years ago to meet the ever growing needs of the Association and its 800 members. Facilities were needed to handle as much as 600,000 pounds of market milk daily, and 120,000 pounds of Grade A milk, which is about the equivalent of 360,000 quarts of milk per day.

The water supply alone, at 89 pounds pressure, would be more than the water supply needed to take care of a city with a population of 10,000 people, and the water and sewage disposal sys-

CONSTRUCTION progresses rapidly with foundations in place and concrete forms, with reinforcing steel, in place for pouring of concrete.

Photos by

Photo-Art Commercial Studios

Delano Aerial Surveys

The new plant as viewed from the highway makes an impressive sight with its massive facade of flaar ta ceiling glass windaws. Future plans call for extensive landscaping and a large parking area with complete facilities for taking care of tourists wha may visit the plant.

tem combined has been planned and developed to meet the needs of a city of 15,000 people, thereby not only taking care of present needs but also anticipating further plant expansion.

Completed in the present building plan is a large cold storage warehouse with a capacity of three million pounds and facilities for aging and handling cheese. Of particular interest is a system of stalls into which mechanized lift trucks can be run with loads of 80 cases or one ton of cheese and the pallet loads placed one above the other, each on a self supporting bracket with ample air space in and around each load.

A fifteen ton capacity ice plant also has been added, as well as an all modern equipped garage for maintenance and repair of the fleet of forty tank trucks and trailers and other company vehicles; a paint and tire shop; and a new maintenance plant for taking care of manufacturing machinery and general plant operations.

Production activities start at the new plant even while the construction af several units of the buildings are still under way by the builder. Thus a minimum af time was consumed in actual building which permitted the immediate use af completed facilities by the creamery associatian.

The new central boiler room and heating plant is equipped with two large safety type boilers which supply the vast amount of live steam needed in operation of the plant. The boilers are oil-burner fired and have a combined capacity of 454 h.p. And again looking ahead to the time when plant operations will be expanded, provision has been made for the eventual addition of another boiler that can easily be placed in service with the present two.

A spacious warehouse has been provided for the many supplies necessary to have on hand to keep a manufacturing plant of this type in continuous operation. A whey condensery plant and a whey warehouse have also been included in this latest construction.

There is a combination building housing the Grade A milk receiving plant, the cottage cheese department, the butter making division, and the ice cream manufacturing department. A process and bottling plant for milk sold locally; a packaging plant for rindless cheese and club cheese food operations; and a modern testing laboratory complete the current new building construction.

Though the processes in the manufacture of cheeses have been refined over the years, new techniques have been developed and special up to date sanitary equipment perfected, so that the construction of the new plant buildings took into consideration these newest methods and facilities of manufacturing, processing, packaging, and shipment of a cheese factory products.

Dairymen bring the raw milk to the receiving platform, two of which have been built to take care of the milk received during peak seasons, where an automatic continuous belt conveyor takes the cans of milk into the receiving room and the milk is emptied from the cans into large stainless steel tanks for weighing and sampling for butter fat content, and technical laboratory tabulations. The empty milk cans are washed on moving chains and made ready for returning to the dairy farmer.

From the receiving room the milk goes through large separators that standardize the butter fat content and excess cream is taken off to be used for butter making. The milk then goes to the "make" room where it runs into large stainless steel vats and is tempered to 86 degrees Fahren-

VESTERN
CONDENSERY
ND THE BOILER ROOM

re housed in this building. he condensery condenses hey into by-products that re used chiefly for poultry eeds.

TRIPLE-DECK

STORAGE ROOM

A new type storage system permits cheese products to be stacked higher in a smaller space.

Two storage rooms provide for a total capacity of three million pounds, with temperatures being maintained at about 37 degrees.

RECEIVING platform at the new Tillamook plant has automatic continuous belt conveyors to run the cans of milk into the receiving room. Two of such types of platforms have been provided to take care of the extra load during peak seasons of the plant's operations.

heit preparatory to making cheese. When curded it is cut into small cubes about ⅜" in size and heated to 102 degrees. The whey is drawn off and pumped through separators that remove any butter fat remaining and the residue is processed into a poultry food.

The curd left in the vat is packed and cut into large blocks and when properly processed the material passes through a curd mill that cuts the large blocks into smaller pieces. Additional ingredients are added and the curd is placed in metal forms for shaping and sizing, and then prepared for shipment and marketing.

In the Grade A milk processing plant the newest machinery has been installed for handling the packaging of paper cartons. These machines automatically fold, seal in wax, crimp, fill with milk, seal at the top, and staple each carton in one continuous operation. Each machine will handle about 16,000 individual cartons in a six hour period.

This plant alone has over 400 feet of stainless steel pipe and some 440 fittings that must be taken apart and cleaned every day after each processing operation. This requires about 2½ hours to take down and clean and about two hours to put back together again.

The cheese making plant is completely equipped with stainless steel vats, which have replaced the old types of vats, and here again it is necessary to take down and clean after each days operation some 1000 feet of stainless steel pipe and more than 1100 fittings.

Other new plant features include special equipment for the manufacture of an ice cream mix. Here also stainless steel coolers and cans for storage are used.

And butter making at the Tillamook creamery plant is a far cry from the old fashioned methods. Churns in this new plant turn out 759 pound chunks of butter at each churning. These large batches are processed and cut into smaller sections for packaging and marketing.

Automatic temperature and humidity controls are used throughout the entire new plant.

The clean white concrete buildings, with their huge glass windows; the immaculate tile walls, and strictly modern, manufacturing equipment, truly make this one of the finest plants in the nation for the manufacture of cheese and processing of milk products.

STAINLESS STEEL VATS

Together with a vast array of pipe is used in the making of cheese. Liquids must flow from one part of the plant to another with a minimum of temperature change.

THE UNIVERSITY OF DENVER

School of Architecture and Planning

DENVER, COLORADO

By WILLIAM ZUK, MSE

Although externally inconspicuous, the University of Denver School of Architecture and Planning has many spheres of learning which extend not only scholastically but geographically distant. These spheres first reach into Denver proper. As the school is located almost in the heart of the metropolitan area, the students find their way into many of the practicing architects and engineers' offices; not only as graduates but more valuably as sophomores, juniors and seniors on a part-time basis. Students' schedules are so arranged that they may work half days and study half days, still carrying a normal academic load. Here in these local architectural offices they learn to coordinate their academic design training with the demands of practice, a valuable lesson in prudence and judgment. The returns are reciprocal for the practicing architect, as he (through the young students) receives fresh ideas carefully conceived by men devoted to the betterment of culture and a way of life.

Student activities are now beginning to extend well beyond the limits of even Denver and are reaching into nearby cities like Arvada, Sterling, Englewood, and Colorado Springs. As class projects the students cooperate with the officials of these cities in examining and studying the town's present and future needs. The students then independently prepare and submit plans and models incorporating the best principles of town and regional planning. Their objective is to achieve a well functioning municipality, a place beautiful enough and worthy enough for all human beings. Although only unofficial student projects, the plans are so stimulating that they often enflame the imagination of the officials and citizenry.

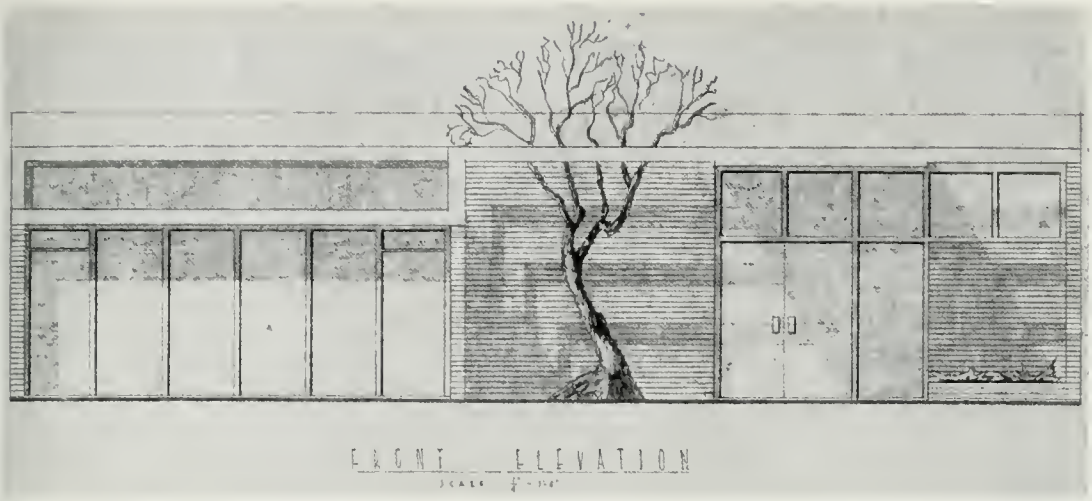
As in all schools, the essence of the students learning is still obtained in the university classrooms. However, here every effort is made to destroy barriers between different courses; endeavoring to create a harmonious, integrated whole of learning, not disjointed independent courses which the students often vainly try to consolidate in their own minds. First, the architecture of buildings is combined with site, city, and regional planning. This is as it should be for buildings are inescapable from their environment. The reverse is true also for land planning must be corelated to building design. Equal importance is given these two subjects as the degree of Bachelor of Architecture and Planning testifies.

STUDENT PROJECT

A VILLAGE BANK

Rolland Wilson

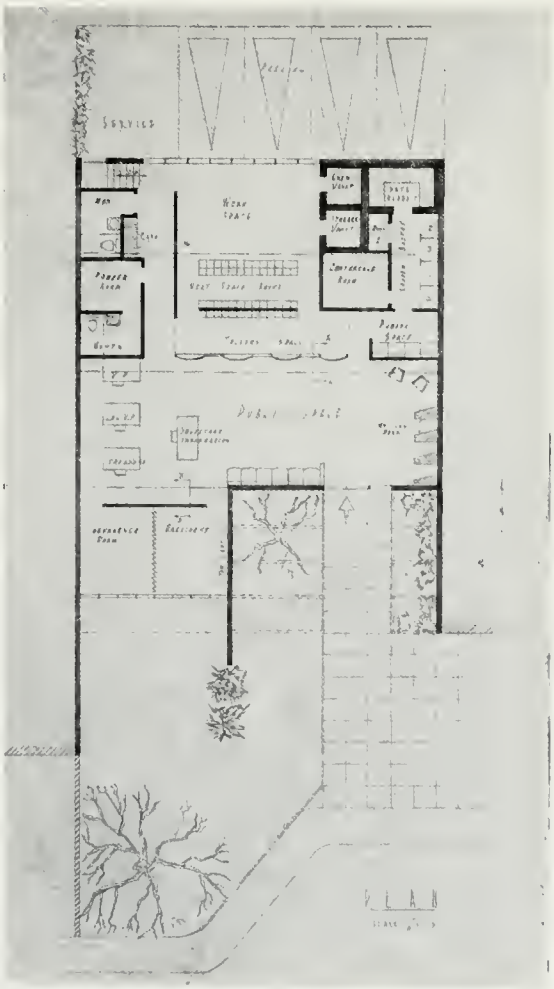
FRONT VIEW



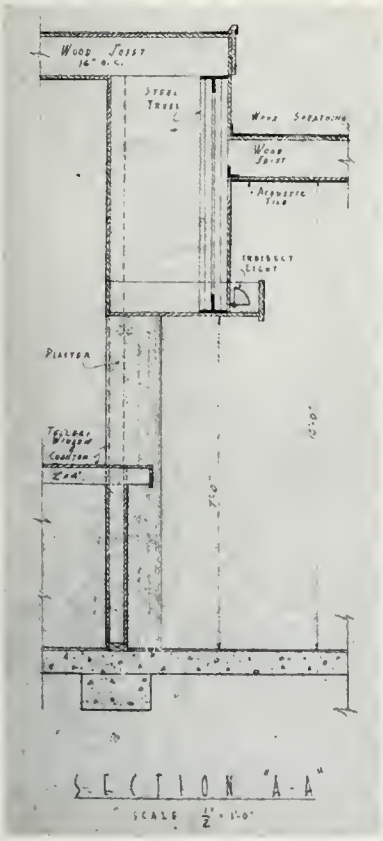
FRONT ELEVATION

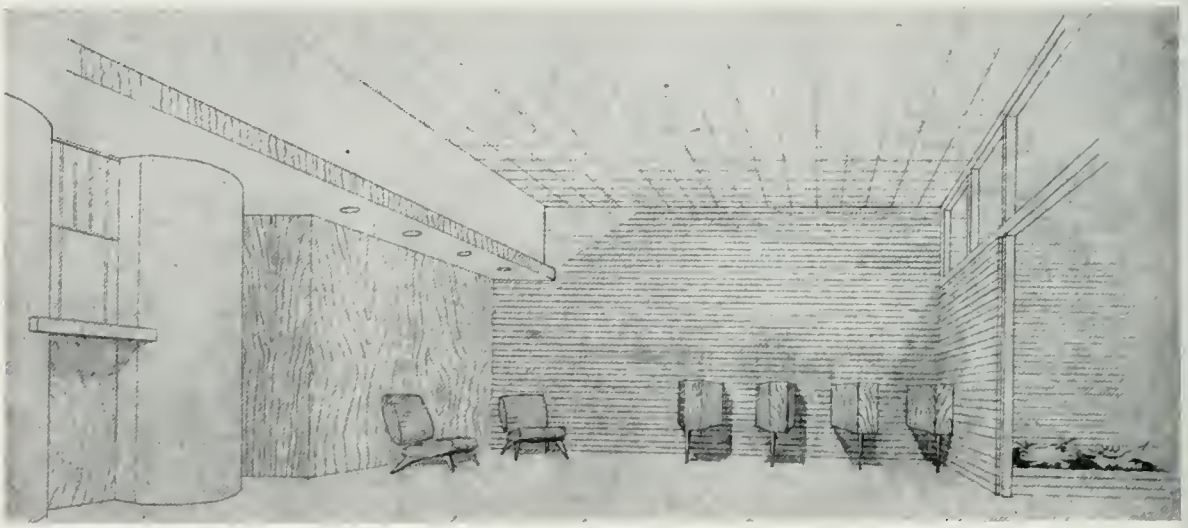
A VILLAGE BANK

PLAN ►



SECTION "A—A"

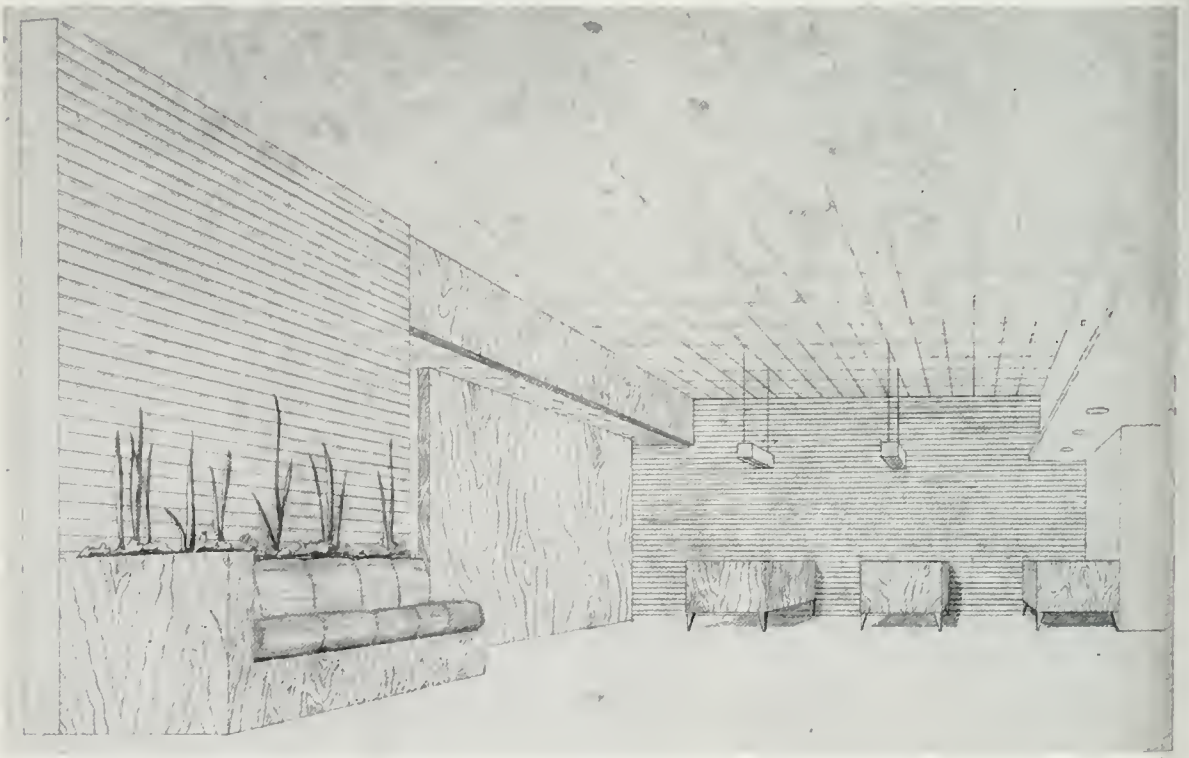




CUSTOMERS LOBBY AREA

A VILLAGE BANK

BUSINESS AND EXECUTIVE AREA



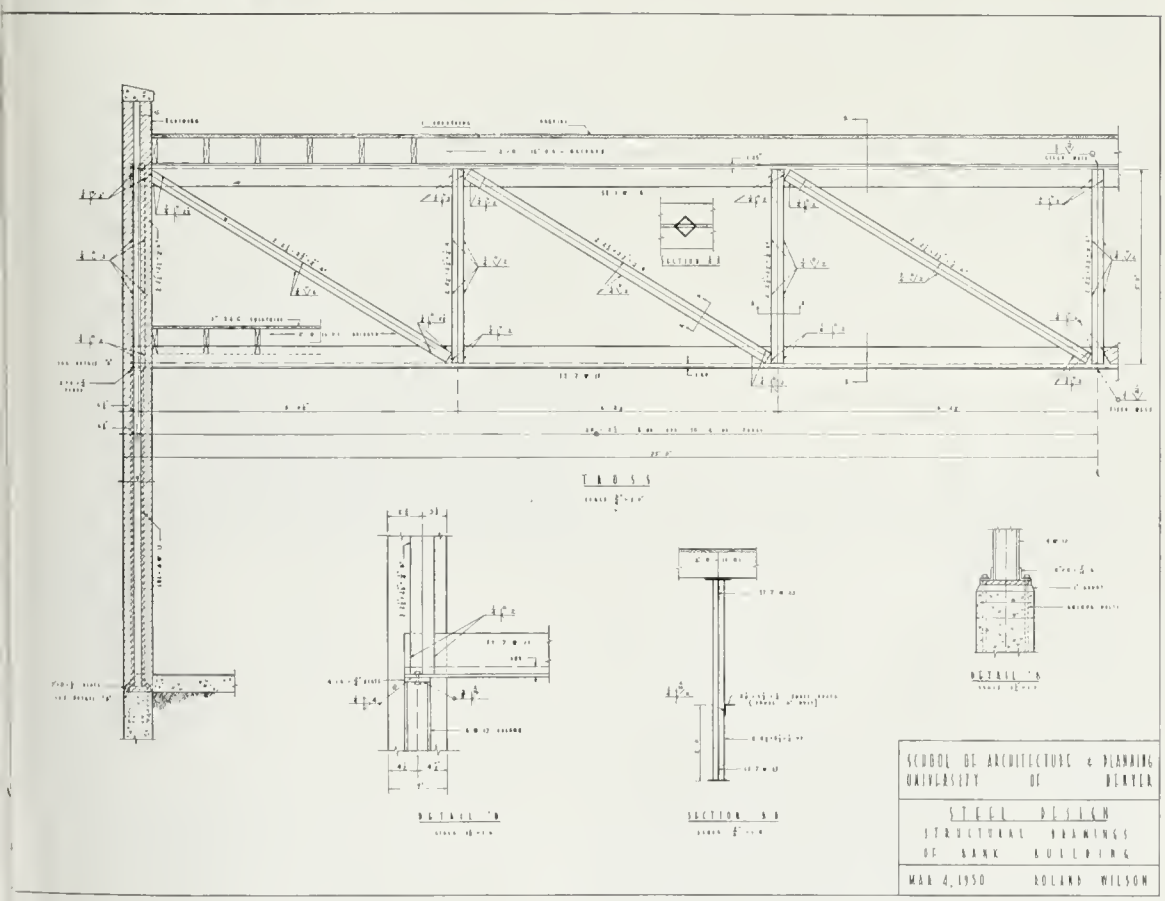
Again, sociology is integrated with land planning. The students in their sociology course survey various areas of Denver studying the environmental factors. These same sociological surveys are then used as a basis for the redevelopment of this same area in their planning course.

Art courses too become a part of design classes. Several of the art faculty serve directly in the architecture school as professors of basic architectural design. Combined projects are frequent. Sculpture done in the art labs is often created expressly for a particular building or garden planned in the design classes.

Great deal of attention is particularly given to the amalgamation of the structural engineering and architectural design classes. Of this union I should like to discuss at some length. Administratively, the engineering courses are given by the engineering college faculty and not by the architectural faculty. Yet an amazingly unique spirit of cooperation prevails between the two colleges, obliterating the historical feuds existing between the architectural and engineering professions.

After sufficient basic design and engineering studies are mastered by the student (which is about his third year) selected design problems are issued to the students in the name of both architectural and engineering faculties. A combined architectural and structural design is required. Special time is arranged in both design and engineering classes that both designs may be carried on concurrently. The students here learn the value of thinking in terms of both the structure and the plan simultaneously. Any effort to do first the design then the structure immediately becomes apparent as misproportions, conceilments, difficult framing, and weak details inevitably result. Danger also lurks in deciding on a definite structural frame for in this case the building again becomes ill-proportioned, badly organized, and uncreative. Proper integration of design and structure developes into a harmonious building, extending the horizons of architecture to undreamed of limits.

STEEL DESIGN OF BANK BUILDING



Close and constant supervision and criticisms are given the students by both architectural and engineering faculty and on both phases of design. The design faculty is as much interested in the engineering as the engineering faculty is in the design. Architectural plans, elevations, perspectives are prepared with structural framing plans, wall sections, and details. Exact engineering computations are of course required with the structural plans. The final submitted drawings and computations are again judged by both architecture and engineering faculty, each scrutinizing the combined design, not just a portion of each.

Some of these more recent designs include a two-story timber frame ballet club, a structural steel frame bank, and a steel frame airport terminal building. A reinforced concrete building is soon to be started.

This same spirit of combined interest, criticism, and judging is carried through on all designs even though exact engineering calculations may not be required.

These design and engineering problems have the complete interest of the students who find the reward of learning in the difficulties of such a combined and complete design. There is no question that such integrated programs are powerful and effective instruments of education.

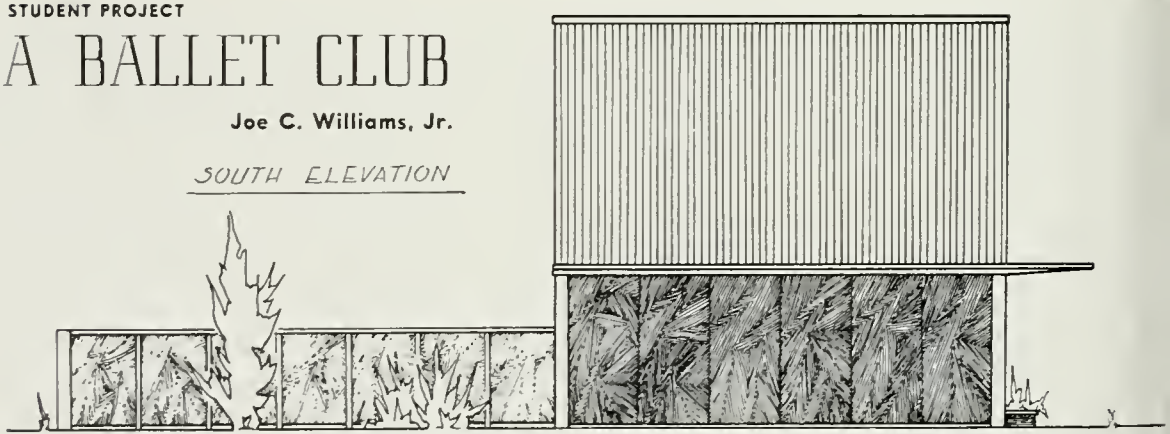
Together with the interdepartment spirit of cooperation, the students prevail in an atmosphere of interfaculty cooperation. The art, history, design, sociology, and engineering faculty are all guided by a central philosophy, one not forced but one springing spontaneously from the individual staff member's own principles. The asset of this is tremendous as major friction is nonexistant. Architecture at the University of Denver is basically taught by not teaching. In the early years of the students' training, they are encouraged to think out a sound philosophy of not only architecture but a way of living. This is essential as architecture has as its nucleus the human being, his method of life and culture. Unless all architecture is contemporary and beautiful, fitted to the needs of present man, architecture becomes ridiculous and insults the designer and all who see it. This idea represents true education, for the students profit by a broadening of wisdom, and not just crammed knowledge. Students become not specialists, but better men, able to carry forth their talent in architecture and planning for the good of society.

STUDENT PROJECT

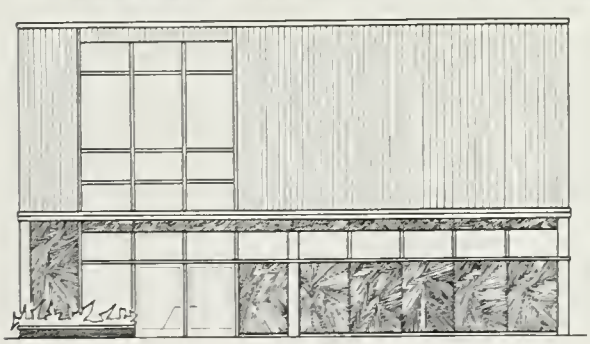
A BALLET CLUB

Joe C. Williams, Jr.

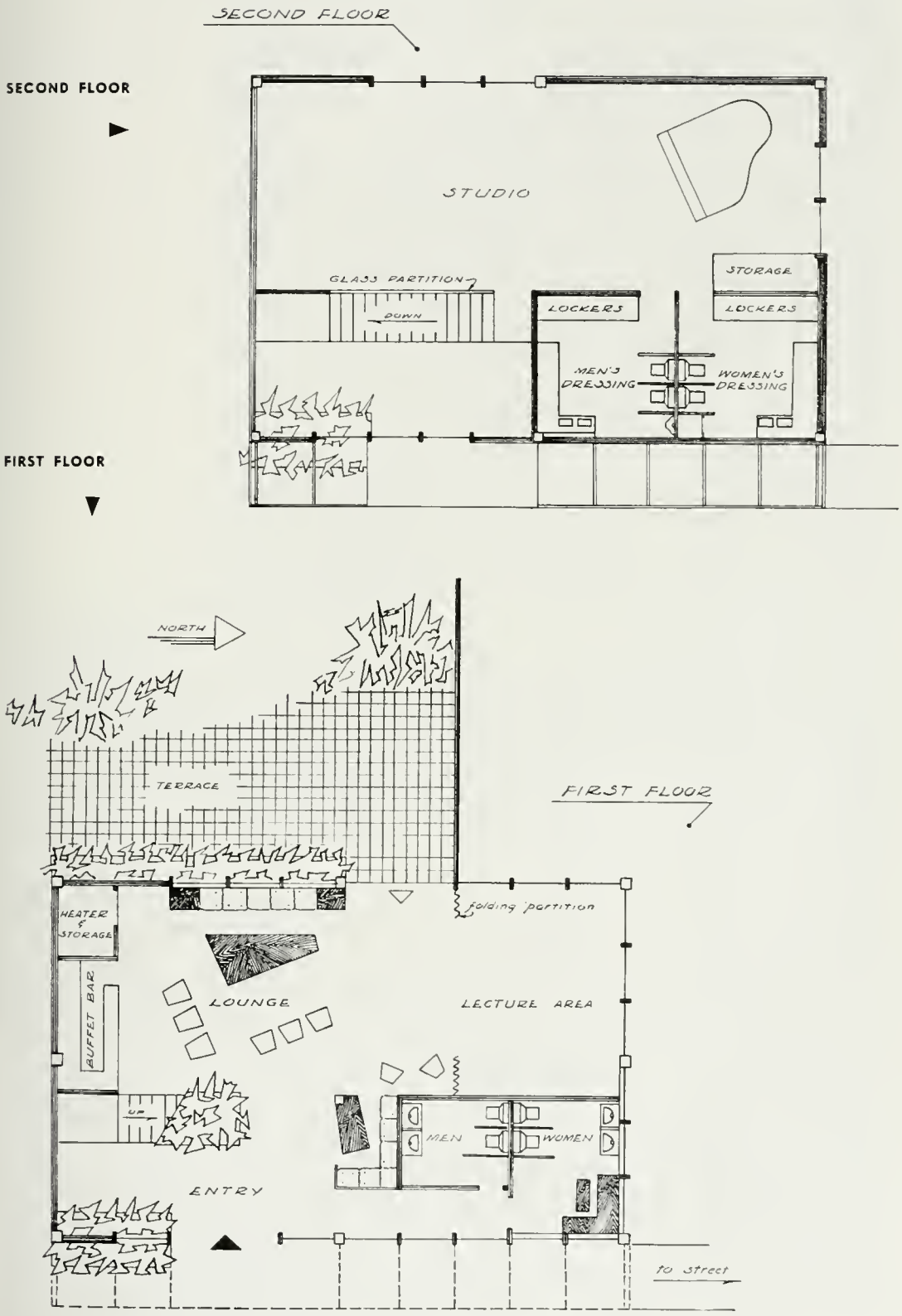
SOUTH ELEVATION



NORTH ELEVATIO



WEST ELEVATION


SECOND FLOOR
SECOND FLOOR
STUDIO
GLASS PARTITION
DOWN
LOCKERS
STORAGE
LOCKERS
MEN'S DRESSING
WOMEN'S DRESSING
FIRST FLOOR
NORTH
TERRACE
FIRST FLOOR
folding partition
HEATER & STORAGE
BUFFET BAR
LOUNGE
LECTURE AREA
UP
MEN
WOMEN
ENTRY
to street

Photograph

by

Frank Werner Co.

Corner of Grant Avenue and Post Street

SHOE STORE
MODERNIZATION
SAN FRANCISCO, CALIFORNIA

HERTZKA & KNOWLES, Architects

JACKS & IRVINE, General Contractors

WM. A. RAINEY & SONS, Ceramic Veneer

RODONI-BECKER CO., Plumbing & Heating

Converting an older style building into a modern retail store, to meet the specific needs of an expanding shoe business, was the problem facing Hertzka & Knowles, Architects.

Result was the complete remodeling, inside and out — from the basement to the roof — of the old Koshland Building at the corner of Grant Avenue and Post Street in downtown San Francisco, where opening of the new Frank Werner Shoe Store marked another step forward in the colorful history of this pioneer shoe firm.

History of Frank Werner, descendent of a long line of old-world cobblers, dates back to the time he came to America, worked in the trade as a cobbler and established himself in the shoe business in San Francisco in 1910. Expansion of store and activities has continued ever since with opening of additional stores in Oakland and Burlingame, and now the new store in San Francisco.

Frank Werner, President of the firm, however, is leaving much of the management and present-day expansion of the shoe business to his son W. Russell who serves as Vice-President and General Manager.

Downstairs Men's Shae department with unique wall design, brick facing at far end of room, and latest design in fixture canstructian and facilities.

Photos by Wesley Swadley

GENERAL INTERIOR VIEW as seen from the Grant Avenue entrance, shawing arrangement af specially designed stare fixtures, merchandise displays and interiar lighting.

MAIN or South Facade on Ventura Boulevard

SAN FERNANDO VALLEY BRANCH
GLENDALE FEDERAL SAVINGS
STUDIO CITY, CALIFORNIA

FLOYD E. BREWSTER, Architect
KERSEY-KINSEY, Builders

A feature providing what might practically be called "instant expansion" to meet future needs highlights the construction of the recently dedicated Valley Branch of Glendale Federal Savings at Studio City, Calif.

The feature lies in the two side walls of the office interior, which run the entire length of the new structure. These walls, which now divide the Savings office in the center from what at present are retail store quarters on either side, actually are "floating" partitions of non-bearing nature. They were pre-fabricated in 8 ft. panels, brought in and bolted together in place. Thus they may be as quickly dismantled to provide the savings company nearly doubled floor space, clear of obstructing pillars under a clear span roof.

Dual facades, front and rear, are another highlight of the building, which runs for a single floor some two-thirds of its length and carries a mezzanine or half-floor rising above the rear portion. Main floor area is 6725 sq. ft., with the mezzanine providing an additional 2600 sq. ft.

The mezzanine, which is reached by a stairway just within the building's rear portal, in addition to such utility departments of the company as a mimeographing shop, carries a community meeting hall with a fully equipped kitchen.

On the ground floor, directly beneath the mezzanine, space is used to compactly house a vault, safety deposit storage, manager's office, escrow office and wash rooms. Stairway to the mezzanine lies directly behind these. A second stairway to

the mezzanine is also provided outside, thus permitting access directly to the community hall without entering the building from below. It is expected that the hall will became headquarters for such local groups as PTA, Red Cross, Community Chest, and other community activities.

Property on which the building is erected fronts on one of San Fernando Valley's main traffic arteries, Ventura Blvd., and has a depth of 354 ft. The building itself is 140 ft. deep, with a 40 ft. strip of non-dedicated street connecting with Laurel Canyon Blvd. to the east. Balance of the property area beyond this rear-street strip, has been asphalted to provide customer and community parking facility.

The importance of the future street in the rear should be stressed. This became the determining factor deciding that the structure should carry the dual facade feature. Thus, the building is imposing both from front and rear, with both portals equally pleasing while each carries its own individual dominating features.

The front, or boulevard, facade of the new building reflects the architecture of the front of the company's headquarters building in Glendale, thus carrying an identification for the Branch. Added interest is given the new Branch building front by the introduction of a deep vestibule, which is 20 ft. wide and carries a green terrazzo floor. This is flanked with a 5 ft. high black terra cotta dado. The main portal carries 6 ft. high solid plate glass doors framed in golden statuary bronze. Adjacent panels of plate glass are set in the same bronze finish sections and these reach a height of 16 ft. above the floor. Bronze lettering, 16 inches high, were applied on the poured concrete facade wall directly above the portal opening to provide further architectural interest. Deep reveals of terra

DETAIL—

Vestibule
Main Portal

Photos by
Julius Schulman,
Los Angeles

cotta furnish the further accents to complete the highly arresting front facade appearance.

Accenting of the facade facing the parking space behind the building is less severe. Instead of a vestibule, this entrance is characterized by an Entrance Court, which was provided by enclosing the space between the building and the proposed street with 9 ft. high walls, to either side of which rise the outside stairways to the community facilities on the building's mezzanine above.

The entrance, like the front portal, carries 6 ft. glass doors, flanked with plate glass panels, all set in bronze finish sections. Unlike the boulevard portal, lesser trim of the black terra cotta is used, the court, walled and flanked by the two staircases, being allowed to strike the dominant architectural note.

This court also furnishes an additional color accent. It rises six steps above street grade and the footings of its surrounding wall. Both treads of the steps and the floor of the court are laid with 12" x 12" red quarry tile. Planting spaces are provided on either side behind the wall within the court. The accompanying illustrations do not show the wrought iron and bronze hand railings and grills which are to be added to the steps, the two stairways and parapets of the wall to provide the final architectural embellishment.

The entire structure rests on reinforced poured concrete foundations, 10 inches in thickness, penetrating 5 ft. deep. Fabricated steel beams were then laid on 24" centers, supported by intermediate foundation walls. These 56 ft. long steel joists were then set between with beam-to-beam arched pans for concrete pouring forms. When forms were in place, the single pouring operating produced fill for the arches and a monolithic slab floor carrying a wire mesh or grill reinforcement imbedded directly above the beams.

After this concrete slab floor had set, the beam-to-beam pans were removed from beneath leaving arched concrete segments rigidly spanning flange-to-flange of each joist. A solid pour of Tile-crete formed the floor surface above which now carries carpeting, wall to wall.

By so constructing the spanning main floor an unobstructed area 30 inches in clearance was provided beneath. Not only is ample circulation thus provided to maintain a dry floor at all times, but ready access is thus permitted to plumbing and wiring—any maintenance work that might be required beneath the floor. Alterations or additional installations of ducting, wiring or piping are thus readily feasible.

Both facade walls, i.e., north and south, are of reinforced poured concrete. Exterior side walls of the building proper, which includes the two retail shops, are of fabricated steel, poured solid with lightweight concrete. Outside stairways, balconies, landings and enclosing wall of the rear facade also are of cast concrete.

Rear entrances to the shops on either side of

VIEW OF REAR OR NORTH ELEVATION Facing on Laurel Canyon Boulevard

the Savings office are located to either side of these rear stairways at ground level. Corridors to each are provided by 9 ft. high walls on either side together with the sidewalls of the rising staircases themselves. Individual privacy for both entrances is thus provided.

To provide clear-span roofing of the building, steel trusses measuring 56 ft. in length were set on 10-inch centers, each spanning the entire width of the structure. A welded channel steel deck was then set on these trusses to cover the entire area of the roof. A layer of building board was then installed over the steel deck for installation. Built-up roofing with a special cool finish covering was then added to complete the roofing operation.

Supporting the Mezzanine floor are 12-inch steel joists 4 ft. o.c., supported on reinforced grout-lock brick walls. It is of significant note that save for light or temporary partitioning between offices, there is no wood studding in the entire building. There are no wood joists, and no wood ceiling joists.

Main facade of the building rises a little over 18 ft. Rear elevation, carrying the mezzanine, rising from a grade lower than the boulevard front, rises 27 ft. to the building's coping. Ceilings in the stores are 14 ft. 6 inches from floor level. Ceiling in the Savings company's main office rises to 18 feet. Store widths are each 13 ft. 4 ins., with the main savings office 29 ft. 8 ins. wide. Counters for public service traverse one partition wall, while company representatives' desks line the opposite office wall. Counters taper off near the front to provide a 19 ft. wide customer area directly within the main portal.

Counter paneling is in matched walnut veneer with which the rear wall rising the height of the mezzanine is also surfaced. This wall is on a line with the front of the vault on one side and managerial offices on the other. It is pierced by a 10 ft. wide corridor, running beneath the mezzanine, to give access to the rear portal. The walnut finish extends the entire 18 ft. height of the wall.

Side walls also carry a wainscoting of walnut, approximately 3 ft. high, in the main savings office. Wall surfaces above the wainscoting are plastered and carry a painted warm color tone.

All ceilings carry acoustical plaster over a zonilite base of scratch and brown coats. The plaster is carried over channel and copper-bearing metal lath.

Lighting has been given special attention. Strips of fluorescent tubing in channels of ground-glass to diffuse glare, line the main ceiling, three in number, running from main portal to mezzanine wall.

GENERAL VIEW OF INTERIOR, looking towards rear portal

Other fluorescent units are installed throughout the building to provide day-lighting.

Spot lighting of both north and south facades and of the rear entrance court as well is an attractive night feature of the new building.

The entire structure is heated and air-conditioned throughout by three all-year conditioning units which operate fully automatically to heat, cool or ventilate either singly or in concert. Insulated flooring was installed in the mezzanine over the furnace room.

Vault construction, all of steel and concrete, interestingly carries a division of one-half inch steel plate, serving as a partition between its safe deposit and storage section. The vault is 7 ft. high with a floor area measuring 15' x 21'. It carries a $5,000 specially-fabricated door weighing 7 tons.

Wrought iron and bronze gates will be erected to close off the passageway running beneath the mezzanine at night. These will complete the appointed interior finish of the main office area.

The Mezzanine floor carries a finish of 2" x 6" t. & g. flooring with plywood for a surface. Finish is in asphalt tile. A feature of the upstairs workroom carrying on mimeographing and other operations where noise may be created together with vibration is that a sound deadening floor was produced by "floating" 4 ft. x 8 ft. sheets of insulating board on ¾" wood strips. The insulating board, by this method, is tacked to the wood strips, but the strips themselves are not nailed down, since the penetrating nails would carry vibrations to the ceiling beneath. The insulating board was then covered with 4 ft. x 8 ft. panels of ⅝" thick ply-score, the latter finished with asphalt tile.

The kitchen mentioned in connection with the upstairs community hall, is fully equipped with gas range and refrigerator units, stainless steel utensils, etc.

Glendale Federal Savings and Loan Association's whole intent and concept in building this strikingly unusual new structure was based on a desire not only to create a beautiful edifice, but to provide a service and public center for community life, using materials and methods that would have long-range service and lasting effects in furthering the functions of their San Fernando Valley branch operations.

GENERAL VIEW OF INTERIOR, looking towards main portal

NEWS & COMMENT ON ART

(Continued from Page 7)

the San Francisco Art Association, and Art Movements and Public Taste—San Francisco.

The Sketch Club, Summer meetings, will be conducted by John Humphrey each Friday afternoon and evening. Know Your World Film Series, a series of documentary and educational films, each Saturday and Sunday afternoon.

The Children's Saturday morning Art Classes will continue through the Summer if the attendance justifies it. The classes will be conducted by Marie Sandow of the Museum Staff.

JOINS ART SCHOOL SUMMER FACULTY

Ad Reinhardt, will be a guest instructor at the California School of Fine Arts during the Summer Session, according to a recent announcement.

He is a faculty member of Brooklyn College with a distinguished career as a painter, illustrator, editor, teacher and critic.

He will teach a course in painting for advanced students and artists, and will deliver a series of lectures on the social, economic and philosophical problems facing the modern artist.

THE NEW YORK MUSEUM OF MODERN ART

The Museum of Modern Art, 11 West 53rd Street, New York City, is featuring a three-bedroom exhibition house designed by Gregory Ain, noted Los Angeles architect, to demonstrate that good modern architectural design is possible in the speculatively built house which is the type of house lived in by most American families.

Oustanding characteristic of this house is the sliding walls and panels which make it possible to use rooms for different purposes. The living room, dining area, parents' bedroom and kitchen can be opened up to form one living area. Similarly the children's rooms can be used as one large bedroom-playroom or as two separate rooms.

The house was planned for a subdivision lot of approximately 60' by 120'; has 1,400 square feet (excluding the garage), and can be built at an approximate cost of $15,500.

FRUIT GROWERS EXPAND PLANT IN SOUTHERN CALIFORNIA

A new thirty-thousand square foot fruit processing plant, costing in excess of a half-million dollars, is being constructed by the Products Department of the California Fruit Growers Exchange at Ontario, California, according to a recent announcement.

Holmes and Narver, Consulting Engineers of Los Angeles, are the engineers.

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A. I. A. ACTIVITIES

American Institute of Architects

Arizona Chapter:
Edward L. Varney, President; Ralph B. Haver, Secretary, 35 W. Oregon Street, Phoenix, Arizona.

Central Valley of California:
Frank V. Mayo, President; John W. Bomberger, Vice-president; Ivan C. Satterlee, Treasurer; William Koblik, Secretary, 2203 13th St., Sacramento, California.

Central Coast Counties Chapter:
Birge M. Clark, President; Lisle Fred Richards, Secretary-Treasurer; Thomas E. Elston, Jr., Chester Root and Henry Morgan Stedman, Directors. Office, 411 Lafayette Street, San Jose.

Colorado Chapter:
Henry J. Von Wyl, President; Charles H. Overholt, Secretary, 2509 W. 36th Avenue, Denver, Colorado.

East Bay Chapter:
James H. Anderson, President; Loy Chamberlain, Vice-President; William Corlett, Secretary; Chester Treichel, Treasurer. Office c/o Sec., Bank of America Bldg., Oakland.

Montana Chapter:
Orr Pickering, President; H. C. Cheever, Secretary, Montana State College, Bozeman, Montana.

Nevada State Board of Architects:
L. A. Ferris, President, Reno; Walter Zick, Secretary, Las Vegas; Directors, Aloysius MacDonald, Las Vegas; Russell Mills and Edward Oarsons, Reno. Office, P. O. Box 2107, Las Vegas, Nevada.

Northern California Chapter:
Ralph Pollack, President; F. Joseph McCarthy, Vice-President; Wm. B. McCormick, Secretary; George A. Downs, Treasurer. Directors, Chas. F. Masten, John Bolles, Don Kirby. Office 369 Pine St., San Francisco 4.

Oregon Chapter:
Irving G. Smith, President; Holman J. Barnes, Vice-President; Albert W. Hilgers, Secretary; and Millard H. Schmeer, Jr., Treasurer. Office, 909 Spaulding Building, Portland 4, Oregon.

Pasadena Chapter (California):
Burton Romberger, President; Georgius Y. Cannon, Vice-President; Donald E. Neptune, Treasurer; William H. Taylor, Secretary. Directors: Boyd E. Georgi, Roland E. Coate, Edwin Westberg and Robert H. Ainsworth. Office 1041 E. Green St., Pasadena.

San Diego Chapter:
George C. Hatch, President; Jack R. Lewis, Vice-President; Louis A. Dean, Secretary; Donald Campbell, Treasurer; Directors, C. J. Paderewski, Walter C. See, Louis H. Bodmer, and Wm. Templeton Johnson. Offices Suite 206 Fifth Avenue Building.

San Joaquin Chapter: (California)
Fred L. Swartz, President, Fresno; Lloyd J. Fletcher, Vice President, Visalia; Walter Wagner, Secretary, Fresno; Robert W. Stevens, Treasurer, Fresno. Directors: Alastair Simpson, William D. Coats, William F. Baxter. Maurice J. Metz, Delegate California Council of Architects. Office, Sec. Fulton-Fresno Bldg.

Santa Barbara Chapter (California):
Henry W. Howell, President; Wallace Wm. Arendt, Secretary, 236 La Arcada Bldg., Santa Barbara, California.

CALIFORNIA COUNCIL OF ARCHITECTS
Frank V. Mayo, President; Frederick A. Chase, Executive Secretary. Office, 3757 Wilshire Blvd., Los Angeles 5.

Southern California Chapter:
John Rex, President; John J. Landon, Vice-president; Burnett C. Turner, Secretary; Jack C. Lipman, Treasurer. Chapter Headquarters, 3757 Wilshire Blvd., Los Angeles 5.

Spokane Chapter:
Richard H. Eddy, President; Harry C. Weller, Vice-President 1; Kenneth D. Storment, Vice-President 2; Victor L. Wulff, Secretary, and Carl Johnson, Treasurer. Office 1023 W. Riverside Ave., Spokane, Washington.

Utah Chapter:
Howell Q. Cannon, President; William J. Monroe, Jr., Secretary, 3707 South 32nd West Street, Salt Lake City 7, Utah.

Washington State Chapter:
Waldo B. Christenson, President; Perry B. Johanson, 1st Vice-President; Charles T. Pearson, 2nd Vice-President; John M. Morse, Treasurer; and Bliss Moore, Jr., Secretary. Offices 714 American Building, Seattle 4, Washington.

Tacoma Society:
E. N. Dugan, President; P. G. Ball, Vice-President; Lyle Swedberg, Secretary-Treasurer.

Hawaii Chapter:
James C. Simms, President; Alfred Preis, Secretary, 1507 Kapiolani Blvd., Honolulu, T. H.

A.I.A. FEES AND CONTRACTS WITH PHA NOT APPROVED

The American Institute of Architects, through its committees on fees and contract documents, issued a statement recently that they have not approved the PHA contract forms covering architects' services.

The statement was issued to clarify a general belief by the nation's architects that these forms issued by the PHA had received A.I.A. approval.

"We are informed," the statement said, "that architects negotiating with local housing authorities for architectural services in public housing projects under Public Law 171 are under the belief that the A.I.A. has approved the contract forms covering the architect's services, apparently issued from the PHA in Washington, D. C., to local housing authorities, and known as documents PHA 1915, Rev. 2-1-50, and PHA 1915A, Rev. 2-1-50."

The A.I.A. has not yet approved any architects' contracts evolved by PHA or any other housing agency, for architects' services for public housing projects, though negotiation are underway for such an agreed-upon contract.

WINNERS OF A.I.A. HONOR AWARDS ARE ANNOUNCED

Winners of the second honor awards for architectural program of The American Institute of

Architects in both the commercial and residential fields have been announced by Albert Heino, Chicago, Chairman of the A.I.A. Committee on honor awards for current work.

Winners of the first honor award for distinguished accomplishment in residential design is the house of H. C. Hvistendahl in California, designed by A. Quincy Jones, Jr., A. I. A., Los Angeles. Awards of Merit were given for the William Crocker house in Sausalito, designed by Mario Corbett of San Francisco, the home of Mrs.

(See Page 38)

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Structural Engineers Association of Central California
William H. Petersen, President; Walter S. Wassum, Vice President; O. T. Illerich, Sec. Treas.; Ernest D. Francis, M. A. Ewing, and Arthur A. Sauer, directors. Office O. T. Illerich, c/o Div. of Arch., Sacramento.

American Society of C. E.
San Francisco Section
A. W. Earl, President; G. B. Woodruff, Vice President; C. T. Wiskocil, Vice President; R. D. Dewell, Secretary-Treasurer. Secretary's Office, 604 Mission Street, San Francisco.

Structural Engineers Association of Southern California
E. C. Hillman, Jr., President; Donald F. Shugart, Vice President; Robert J. Short, Secretary-Treasurer. Directors: Charles M. Herd, John Minasian, Harry Bolin, John Case and Lewis Osborne. Office, 202 Architects Bldg., Los Angeles 13.

Puget Sound Engineering Council (Washington)
R. E. Kister, A. I. E. E., Chairman; E. R. McMillan, A. S. C. E., Vice Chairman; L. B. Cooper, A. S. M. E., Secretary; A. E. Nickerson, I. E. S., Treasurer. Offices, L. B. Cooper, c/o University of Washington, Seattle 5, Washington.

STRUCTURAL ENGINEERS ASSOCIATION OF SOUTHERN CALIFORNIA

The regular June meeting was held in the Alexandria Hotel, Los Angeles, with C. D. Wailes, Jr., Speaking on the subject "Developments in the Field of Precast Construction." Wailes augmented his comments with illustrated slides and movies of methods and uses of concrete.

The following new members were introduced: Virgil Capesius, Paul Toien, and Ted C. Combs, Associates.

Attention was called to the Annual Convention which will be held October 12-14 at the Hotel Coronado, Coronado, California, and members were urged to make their plans to attend.

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NEW ENGINEERING FIRM

Walter E. Riley and Frank J. Foltz have announced the formation of the Riley & Foltz Consulting Engineers with offices in the Industrial Building, Phoenix, Arizona.

Both engineers were formerly associated with the Allison Steel Manufacturing Company of Phoenix, and are well known in the construction industry.

STRUCTURAL ENGINEERS ASSOCIATION OF NORTHERN CALIFORNIA

The June meeting was held at the Engineers' Club in San Francisco and was devoted to affairs of the Association with John Blume serving as Moderator. It was an opportunity for members to offer their "ideas" and "suggestions" among friends as there were no guests. The meeting was also dedicated to honoring Past Presidents of the Association.

New Members include: Associate, Charles De Maria, Milton P. Kitchel, and George R. Maurer. Junior, Arthur W. Anderson, Jr., Walter H. Hensolt, Donald B. Hicks, and David A. Welisch.

Members were informed the Annual Convention would be held October 12-13-14 at Hotel Del Coronado, Coronado.

ELECTED CHAIRMAN OF WEST COAST SOCIETY OF INDUSTRIAL DESIGNERS

Hunt Lewis of Pasadena, has been elected chairman of the Pacific Coast Chapter of the Society of Industrial Designers, an organization comprising men who have achieved professional distinction as industrial designers.

Others elected included William F. H. Purcell, Pasadena, secretary; and Frederick K. Storm, Jr., Los Angeles, treasurer.

AUSTRIAN ENGINEERS VISIT AMERICAN PROJECTS

A group of prominent civilian engineers from Austria are visiting the numerous U. S. Corps of Engineer projects under auspices of the Economic

Cooperation Administration, according to Major General Lewis A. Pick, Chief of Engineers.

The seven engineers in the party will visit projects from North Carolina to Oregon.

ELECTED WATER WORKS PRESIDENT

George W. Marx, chief sanitary engineer for the Arizona State Department of Health, has been elected president of the Arizona Sewage and Water Works Association.

Other officers named at a recent two day convention included Stuart Henderson, 1st vice-president; and Mrs. Helen Rotthaus, secretary-treasurer. Directors are John Raucher, A. W. Miller, Dario Travaini, Walter C. Harford, A. Anton Frederickson, and Clark Webb.

ASSOCIATED GENERAL CONTRACTORS

The Associated General Contractors of America recently inaugurated cooperative activities designed to stimulate industry interest in programs which will train new skilled workmen for the industry.

They also are advocating the administration of unemployment compensation funds under sole control of the state government as an effective way of reducing and eliminating abuses.

The Association represents 5,500 of the country's leading contractors.

BRITISH BUILDERS REPORT ON U. S. CONSTRUCTION METHODS

Contrasting the efficiency of the American building industry with the lack of production in England, the official report of the 17-Man British Building Team which visited the United States last summer urges sweeping reforms of British building practices and relaxation of government controls.

Citing the initiative, efficiency, economy and productivity of American builders, the report draws a sharp comparison between American and British methods and results.

Headed by Robert O. Lloyd, a general contractor, the Team was composed of architects, engineers, contractors and labor representatives. They spent six weeks in visiting building projects in major cities throughout the country, and devoted eight months in making the report.

FLOOD CONTROL AND RIVERS AND HARBORS WORK LISTED

The Office of Information, U. S. Department of Defense, has announced the authorization of federal funds for the development of flood control and harbor and river projects, which include: Columbia River Basin (Oregon) $75,000,000; Los Angeles and San Gabriel Basin, $40,000,000; Russian River, $11,550,000; Santa Ana River, $15,000,000; Sacramento River Basins, $3,500,000.

Other projects listed include, $209,000 at Pueblo, $26,300,000 for the South Platte River Basin in Colorado; $31,000,000 for the Albeni Falls Reservoir in Idaho; $1,980,000 for the Meadow Valley Wash on Muddy River, and $7,679,000 for the Humboldt River in Nevada; the Rio Grande Basin in New Mexico, $39,000,000; $16,300,000 for the Eagle Gorge Reservoir on the Green River, Washington; and $10,717,000 for harbors in Washington, Oregon and California.

PLAN NEW APARTMENT HOUSE

Plans for the construction of a $1,000,000 twin-unit apartment house in the Lake district of Oakland, California, and formation of a corporation to direct the project have been announced by the F. Bruce Maiden Realty Company.

To be known as Lakeshore Towers, the structure will be built on a 6570 square foot site, will be fifteen stories in height and will contain 96 apartments.

VISTA HOUSE AT SHASTA DAM

The U. S. Bureau of Reclamation will spend $295,895 for the construction of a Vista House at Shasta Dam, according to a recent announcement awarding a contract for construction of the building to Haas & Rothschild, general contractors of San Francisco.

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Edited by Don W. Lyon, LIBBEY-OWENS-FORD GLASS CO.

TABLE TOP EXHIBIT ATTRACTS LARGE SEGMENT OF CONSTRUCTION INDUSTRY

Playing host to well over five hundred architects, engineers, and public officials connected with the building industry, the San Francisco chapter presented its most successful Table Top exhibit to date in the Colonial Room of the St. Francis Hotel on May 24. Featuring the most recent products of forty-two firms who hold membership in the Council, the calibre of the exhibits drew many comments from those present. Not the least attractive of the many features was the well attended cocktail party.

Although this was only the second postwar show staged by the chapter, from the standpoint of attendance and excellence of the exhibits, it is believed that the exhibit will rank as one of the best presented by any of the Council's thirty chapters. For strengthening our claim to being the most active chapter in the United States, the members owe a rousing vote of thanks to Chairman Jim Ferguson of Johns-Manville and his committee of Jack Armstrong, David E. Kennedy, Inc.; Ed Edinger, Owens-Corning Fiberglass; Bill Hausermann, The E. F. Hausermann Co.; Louis Saylor, Vermont Marble; and Al West, Aluminum Corporation of America.

CHAPTER PLANS TO PUBLISH ARCHITECTS REGISTER

Word comes from the Southern California chapter that their recently completed program to canvass the architects to determine such items as the most favorable hours for salesmen to call, key personnel to be seen in each office, and similar related items has proven of considerable benefit to both Architects and Council members. President George Conley has appointed Armstrong Cork's Paul Wagner to head a committee to investigate the possibilities. The publication of such a Register

USE QUALITY PRODUCTS — MANUFACTURERS OF QUALITY BUILDING PRODUCTS — THE PRODUCERS' COUNCIL — CONSULT AN ARCHITECT

has proven to be of mutual benefit in the cities where it is now in existence and in all probability the current year will see one produced for Northern California.

* * *

MacJENNETT TO HEAD COUNCIL CONTINGENT AT YOSEMITE

Recently named to head the Convention Committee, the Chapter's genial "Veep", Al MacJennett of Mueller Brass is already busily engaged in coordinating the Council's share of the activities to be staged at the annual convention of the California Council of Architects. Working with "Yosemite Bill" Rowe, AIA, General Chairman of the essembly which will be held at Yosemite September 28, 29 and 30, Al says he's going to require plenty of assistance. As we go to press only one spot in the line up appears definitely filled — veteran of the last Yosemite convention, Boris Kitchin of the Rolph-Mills Co., has sewed up his job as chairman of the croquet tournament.

BUILDING ACTIVITY BRISK

Indications are that the nation's home builders will smash the all time record of 1,025,800 units started in 1949, if present home building activities continue for the balance of the year.

There is an increase in the construction of apartments, however, home building remains the backbone of the home building industry, a report of the National Association of Home Builders shows.

ALEXANDER MacGILLIVRAY NAMED GLADDING, McBEAN & CO. OFFICIAL

Fred B. Ortman, president of Gladding, McBean & Company, recently announced the election of Alexander MacGillivray to the vice-presidency of the firm.

Alexander MacGillivray

MacGillivray, who joined Gladding, McBean & Company in February 1949, will direct the administration of accounting and financial matters, budgets and market research. He has also been named to the firm's executive council.

Prior to joining the firm, one of the nation's larger manufacturers of diversified ceramic products, he was associated for many years with Radio Corporation of America at Camden, New Jersey. He is a native of Scotland but has lived in America since childhood, graduating from New York University with a Bachelors and a Masters degree in Business Administration. He is a member of the Controllers Institute of America and the American Marketing Association.

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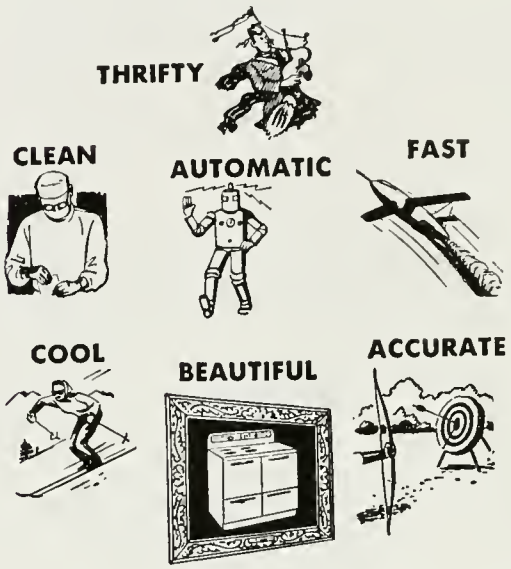

The trend in modern living is toward Electrical Living with its dozens of work-saving, time-saving appliances. High on the "must" list of home-owners is a new electric range.

Today's glistening 1950 ranges not only sell themselves, but help greatly to sell those houses in which they are installed.

You can cash in on this blue-chip business by including an electric range or the necessary wiring for one in home plans. New homes sell faster and your initial margin on the sale is larger with built-in electric cooking.

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HEADLINE NEWS & VIEWS

By E. H. W.

GROUND breaking ceremonies were held March 29, launching construction work on the ninety acre River Park project in Philadelphia which is estimated will cost $50,000,000.

* * *

ECONOMIC problems are in ample supply at the present time.

* * *

THE AGCA recently went on record before a Federal House of Representatives Committee as being in opposition to a bill before Congress which would reorganize the contractors position in relation to provisions of the Taft-Hartley Act.

* * *

HONEST Business big and small built America—monkey Business can tear it apart.

* * *

DURING the month of March 110,000 new homes and apartments were started, according to a report of the National Association of Home Builders. A total of 270,000 starts for the first quarter of 1950 is 100,000 more than the same period for last year.

* * *

WHEN you consider today's problems in running a business—it is no coincidence that a list of 100 persons making the greatest impact on the world in this generation includes the name of the man who discovered aspirin.

* * *

"SELLING to the Government" explains procurement operations and lists agencies which make major purchases. Issued by Chamber of Commerce of the U. S., Washington, D. C.

* * *

"THE permissible distance to exits in fire resistive hotels partially protected by automatic sprinklers has been increased from 100 to 150 ft.":—Building Exits Code, American Standards Association.

* * *

SOME 80,000 new dwellings were started in January and February of this year making a total for the two months of 160,000. This compares with 100,000 for the corresponding two months of 1949. Not much indication there that private enterprise is failing to supply new houses.

* * *

THE Sloan Valve Company of Chicago has announced creation of the first automatically self-cleaning shower head.

* * *

AFTER nearly five years the postwar housing shortage seems to have run it course, according to the National Association of Real Estate Boards.

WILL CONSTRUCT ADDITION TO COUNTY COURT HOUSE

The Stanislaus county board of supervisors have approved plans for the construction of a three story addition to the Stanislaus county court house in Modesto.

The work will cost approximately $151,400, according to architect Russell G. DeLappe of Berkeley, architect for the project.

HIGHWAY PATROL STATION EXPANDS AT MERCED

The Motor Vehicle Department of the State of California is building an addition to the Highway Patrol Building at Merced, according to a recent announcement by the State Department of Public Works.

The addition will consist of additional garage and office space.

PING YUEN HOUSING PROJECT, SAN FRANCISCO

The San Francisco Housing Authority has advertised for bids on the Ping Yuen housing project which will call for the construction of three six story reinforced concrete buildings containing 234 dwelling units, at an estimated cost of $2,450,000.

Architects for Ping Yuen are Daniels & Howard and Ward & Bolles.

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BOOK REVIEWS
PAMPHLETS AND CATALOGUES

PLANNING SCHOOL LIBRARY QUARTERS — A Functional Approach. American Library Association, Chicago, Ill. Price $1.50.

Prepared by the Sub-Committee on Library Service to Schools Planning Board of the Illinois Library Association, the publication is designed to help administrators, librarians, and architects interested in designing and planning adequate library facilities.

Chapters are devoted to the Changing Library in the Changing School; Library-Study Hall; the Library's Place in the Physical Plant; and other phases of the school library including, furniture, sound control, lighting, color, and window treatment. Many drawings and photographs are used.

BUILDINGS FOR SMALL PUBLIC LIBRARIES. Published by American Library Association, Chicago, Ill.

A booklet of small public library buildings, remodeled and adapted including new designs for branches, prepared by the A.I.A. Committee on library architecture and building planning of the American Library Association under the supervision of Ernest I. Miller, chairman.

Contains photographs and plans and the technique of planning a building for a public library or a branch library.

NEW CATALOGUES AVAILABLE

Any of the catalogues or folders described here may be obtained by forwarding your request as indicated in the coupon below to the office of the ARCHITECT & ENGINEER. *Merely mark the items you want and clip or paste the coupon to your letterhead.*

169. FIRE PROOF RATINGS ON METAL LATH AND PLASTER. For the first time, all ratings on fire-resistive constructions utilizing Metal Lath and Plaster have been assembled in one place in the current issue of the Metal Loth News, official publication of the Metal Lath Manufacturers Association. This valuable information has been consolidated into three pages of tables, listing 89 fire resistance ratings ranging from 1 hour to 4 hours for various types of construction such as structural steel, steel joist floors, steel plate floors, cellular steel floors, reinforced concrete floors, wood joist floors, steel roof deck assemblies and numerous types of solid and hollow partitions. A.I.A. 20-B-1, 16 pages illus., 5/50.

170. NEW ROLLING GYM STAND. Rolling Gymstands for indoor use are pictured and described in a new catalog just released by Wayne Iron Works. The Catalog consists of two sections. Section I covers Wayne Standard or Fixed, Rolling Gymstands which can be moved from place to place on the same floor level. Section II gives complete specifications for both types of gymstands and includes a drawing of a typical gymnasium arrangement to assist those who are planning indoor seating facilities. 12 pages illus., 5/50.

171. THE FACTS OF LIGHT. The Frink Corporation has just issued a new, easy-to-read 16 page booklet entitled "THE FACTS OF LIGHT or What Every Man Should Know Before He Gets Engaged (in Buying Illumination)." This illuminating booklet was written and illustrated by Don Herold who is famous for unstuffing stuffy subjects. It presents in simple, straightforward terms the problems involved in buying lighting equipment and the "Perils of an Unwise Light Affair." 16 pages illus., 5/50.

172. ARCHITECTURAL PORCELAIN ENAMEL STORE FRONTS. A four-page illustrated bulletin on architectural porcelain enamel for stores and store fronts has been issued by the Architectural Division of the Porcelain Enamel Institute. This bulletin is the first of a series to be published quarterly by the Institute, covering various types of applications for architectural porcelain enamel. The current four-page bulletin includes fourteen photographs of representative store and store-front porcelain enamel installations designed by architects in various parts of the country. A.I.A. 15-H-2, 4 pages illus., 5/50.

173. I. E. S. STUDY OF CANNERY LIGHTING. Canning operations require a great amount and variety of supplementary lighting to illuminate such important seeing tasks as sorting, grading, preparing and canning of fruits, vegetables and other products, as well as adequate illumination in the working areas. With these two general conclusions in mind, the Committee on Lighting in the Canning Industry of the Illuminating Engineering Society has just published a completely illustrated 36-page booklet describing the recommended lighting conditions through all operations of the canning processes. A.I.A. 31-G-13, 34 pages illus., 1/50.

174. NEW HIGH LINE UNITS FOR PLANS AND RECORDS. Complete new twelve page catalog in color provides detail information on the most extensive line of roller shelf and document file cases. Forty illustrations show document files, roller shelf units, curtain cases, pigeon hole cases and legal blank cases that are available singly or in any combination. Of interest to architects, purchasing agents and others are the complete roller shelf and document file specifications. A.I.A. 35-H-42, 12 pages illus., 5/50.

175. 15 STEPS TO BETTER CONCRETE CONSTRUCTION. This 12-page illustrated booklet is written specifically for architects and consulting and construction engineers. Lists detailed information and specifications on Sika compounds engineered to answer specific problems of concrete and masonry construction. Describes the use of Plastiment Retarding Densifior to render structures resistant to water, cracking and absorption, and to keep water content, concrete quality and setting time uniform regardless of atmospheric temperature, even during hot weather. Discusses 14 additional materials of construction engineered for coating, sealing, hardening, and repair work on concrete and masonry. Complete with product descriptions and composition, specific uses, contributing properties, and Architect's Specifications. A.I.A. 7, 12 pages illus., 5/50.

176. EVAPORATIVE COOLERS. The Arctic Circle evaporative cooler catalog covers data from residential installations to commercial and industrial installations for air conditioning. Complete engineering data is also included. 20 pages illus., 4/50.

177. 8 IDEAS FOR A BETTER BEDROOM. Using Malarkey plywoods this booklet shows plans and specifications for bedrooms with built-in wardrobes and cabinets. Many of the plans suggest variations that are readily adaptable to differing problems. 8 pages illus., 4/50.

178. ALUMINUM DOUBLE HUNG WINDOWS. This set of two catalogs covers the Fleetlite Double Hung Aluminum Windows showing details and specifications for installation and construction details. The Fleetlite Aluminum window is a complete packaged pre-assembled window. 10 pages illus., 3/50.

179. BASEBOARD HEATING. The principles of U. S. Radiant Baseboard heating are completely described and illustrated in the new brochure released by that firm. The advantages of radiant over convected heating are explained and details given showing the exact relation to comfort between the two systems. 34 pages illus., 3/50.

ARCHITECT AND ENGINEER,
68 Post Street, San Francisco, Calif.

I would like to have a copy of each of the New Catalogues I have circled.

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177 178 179

Please send to the address on my letterhead, or as I have indicated, and to my attention. (Please print your name—no literature will be sent on this coupon after (August.—A. & E.)

THE CO-ORDINATED CLASSROOM CITED

A jury equally representing the American Institute of Architects and The Producers' Council, Inc., has awarded a certificate of merit in Class 1 to the booklet "The Co-ordinated Classroom," by Dr. Darell B. Harmon, educational consultant of Austin, Texas.

The purpose of the competition was to acknowledge the excellence in product literature and to aid manufacturers in increasing its effectiveness for use by architects and engineers.

Dr. Harmon's book places primary emphasis on problem rather than products in dealing with the necessity for co-ordinating all elements in a classroom to create better seeing conditions.

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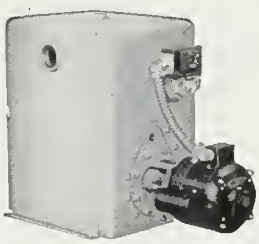

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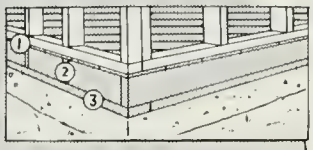

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A. I. A. ACTIVITIES

(Continued from Page 29)

Harold Adams in Concord, Massachusetts, designed by Hugh Stubbins, Jr., Lexington, Mass.; and for the Roberta Finney house in Sarasota, Fla., designed by Twitchell and Rudolph, architects, of Sarasota, Fla. The jury for the awards in residential architecture was: Miss Elizabeth Gordon, Editor, HOUSE BEAUTIFUL, New York, Pietro Belluschi, F.A.I.A., Portland, Ore., Thomas H. Creighton, A.I.A., Editor, PROGESSIVE ARCHITECTURE, N. Y., George M. Martin, F.A.I.A., Cincinnati, and James T. Lendrum, A.I.A., Small Homes Council, University of Illinois, Urbana.

The first honor awards for distinguished accomplishment in commercial architecture was given for the Davison Department Store, Augusta, Georgia, designed by Harold M. Heatley and Ketchum, Gina, and Sharp, architects of New York. Awards of Merit were given for Wallach's Clothing Store, Jamaica, N. Y., designed by Ketchum, Gina, and Sharp of New York, the H. A. Bercu Pipe Shop, Los Angeles, designed by Welton D. Becket, A.I.A., Los Angeles, Bullock's Pasadena, designed by Welton D. Becket, A.I.A., Los Angels, Santa Fe Ticket Office, Los Angeles, designed by Maynard Lyndon, Los Angeles, and Foley Department Store, Houston, designed by Kenneth Franzheim, F.A.I.A., Houston.

The jury for awards in commercial architecture was Walter O. Bode, General Manager, Famous-Barr Store, St. Louis, Mo., Kenneth C. Welch, A.I.A., Grand Rapids, Mich., James A. Wares, A.I.A., Marshall Field & Co., Chicago, Harold D. Hauf, A.I.A., Editor, ARCHITECTURAL RECORD, New York, and Lawrence B. Anderson, Department of Architecture, Mass., Cambridge, Mass.

NORTHERN CALIFORNIA CHAPTER

The following officers were elected to serve the Chapter for the ensuing year: Ralph N. Pollack, President; F. Joseph McCarthy, Vice-president; Wm. B. McCormick, Secretary; George A. Downs, Treasurer, and Directors, Charles F. Masten, John Bolles, and Don Kirby.

John Bolles and Don Kirby will serve as Delegates to the California Council of Architects.

A joint meeting was held June 13th with the East Bay Chapter and the Architectural students of the University of California, in the Faculty Club, Berkeley. W. W. Wurster, A.I.A. Dean of the School of Architecture, U. C., addressed the meeting as did Loy Chamberlain, A.I.A. and president of the East Bay Chapter.

SOUTHERN CALIFORNIA CHAPTER

The June meeting was observed as the "Work Shop" meeting with members taking advantage of the opportunity to express themselves on the subjects of Fees, Legislation, Ethics, and Practice.

ESTIMATOR'S GUIDE

BUILDING AND CONSTRUCTION MATERIALS

PRICES GIVEN ARE FIGURING PRICES AND ARE MADE UP FROM AVERAGE QUOTATIONS FURNISHED BY MATERIAL HOUSES TO SAN FRANCISCO CONTRACTORS. 3% SALES TAX ON ALL MATERIALS BUT NOT LABOR

All prices and wages quoted are for San Francisco and the Bay District. There may be a slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

BONDS—Performance or Performance plus Labor and Material Bond(s), $10 per $1000 on contract price. Labor & Material Bond(s) only, $5.00 per $1000 on contract price.

BRICKWORK—

Common Brick—Per 1M laid—$100.00 up (according to class of work).

Face Brick—Per 1M laid—$200.00 and up (according to class of work).

Brick Steps—$3.00 and up.

Common Brick Veneer on Frame Bldgs.—Approx. $1.20 and up—according to class of work).

Face Brick Veneer on Frame Bldgs.—Approx. $2.00 and up (according to class of work).

Common Brick—$34.00 per M—truckload lots, delivered.

Face Brick—$81.00 to $106.00 per M, truckload lots, delivered.

Mantel Fire Brick—$90.00 per M—F.O.B. Pittsburgh.

Fire Brick—Per M—$96.00 to $130.00.

Cartage—Approx. $9.00 per M.

Paving—$75.00.

BUILDING PAPER & FELTS

1 ply per 1000 ft. roll	$5.30
2 ply per 1000 ft. roll	7.80
3 ply per 1000 ft. roll	9 70
Brownskin, Standard 500 ft. roll	6.85
Sisalkraft, reinforced, 500 ft. roll	7.00
Sheathing Papers—	
Asphalt sheathing, 15-lb. roll	$1.98
30-lb. roll	2.93
Campcourse, 216-ft. roll	2.95
Blue Plasterboard, 60-lb. roll	5.10
Felt Papers—	
Deadening felt, ¾-lb., 50-ft. roll	$3.13
Deadening felt, 1-lb.	3.69
Alphelt roofing, 15 lbs.	1.98
Asphalt roofing, 30 lbs.	2.93
Roofing Papers—	
Standard Grade, 108-ft. roll, Light	$1.74
Medium	2.03
Heavy	2.40
Extra Heavy	2.77

BUILDING HARDWARE—

Sash cord com. No. 7	$2.65 per 100 ft.
Sash cord com. No. 8	3.80 per 100 ft.
Sash cord spot No. 7	3.65 per 100 ft.
Sash cord spot No. 8	4.00 per 100 ft.
Sash weights, cast iron, $100.00 ton.	
1-Ton lots, per 100 lbs.	$3.75
Less than 1-ton lots, per 100 lbs.	$4.75
Nails, per keg, base	$11.00
8-in. spikes	11.00
Rim Knob lock sets	3.50
Butts, dull brass plated on steel, 3½x3½	.71

CONCRETE AGGREGATES—

The following prices net to Contractors unless otherwise shown. Carload lots only.

	Bunker per ton	Del'd per ton
Gravel, all sizes	$2.44	$2.90
Top Sand	2.38	3.13
Concrete Mix	2.38	3.06
Crushed Rock, ¼" to ¾"	2.38	2.90
Crushed Rock, ¾" to 1½"	2.38	2.90
Roofing Gravel	2.81	2.90
River Sand	2.50	3.00
Sand—		
Lapis (Nos. 2 & 4)	3.56	3.94
Olympia (Nos. 1 & 2)	3.56	3.88

Cement—

Common (all brands, paper sacks), carload lots, $3.39 per bbl. f.o.b. car; delivered $3.60.

Per Sack, small quantity (paper) $1.00

Carload lots, in bulk per bbl 2.79

Cash discount on carload lots, 10c a bbl., 10th Prox., less than carload lots $4.00 per bbl. f.o.b. warehouse or delivered.

Cash discount 2% on L.C.L.

Trinity White, Meduse White — 1 to 100 sacks, $3.13 sack warehouse or del.; $9.56 bbl. carload lots.

CONCRETE READY-MIX—

1-2-4 mix, to 10 yards*	$11.15
10 to 100* yards	10.15
100 to 500 yards	9.65
Over 500 yards	9.45

* Delivered to site.

CONCRETE BLOCKS—

	Haydite	Basalt
4x8x16-inches, each	$.16	$.16
6x8x16-inches, each	.21	.21
8x8x16-inches, each	.25	.25
12x8x16-inches, each	.33	.375
12x8x24-inches, each		.60

Haydite Aggregates—

¾-inch to ⅜-inch, per cu. yd $6.50

⅜-inch to $\frac{1}{16}$-inch, per cu. yd 6.50

$\frac{3}{16}$-inch to 0-inch, per cu. yd 7.00

DAMPPROOFING and Waterproofing—

Two-coat work, $9.00 per square.

Membrane waterproofing—4 layers of saturated felt, $10.00 per square.

Hot coating work, $5.00 per square.

Medusa Waterproofing, $3.50 per lb. San Francisco Warehouse.

Tricosal concrete waterproofing. 50c a cubic yd. and up.

ELECTRIC WIRING—$15 to $20 per outlet for conduit work (including switches).

Knob and tube average $6.00 per outlet. (Available only for priority work.)

ELEVATORS—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing a slow speed automatic passenger elevator in small four story apartment building, including entrance doors, about $8000.00.

EXCAVATION—

Sand, $1.00; clay or shale, $1.50 per yard.

Trucks, $30 to $45 per day.

Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

FIRE ESCAPES—

Ten-foot galvanized iron balcony, with stairs, $250 installed on new buildings; $300 on old buildings.

FLOORS—

Composition Floors, such as Magnesite, 50c per square foot.

Linoflor—2 gages—$3.00 per sq. yd.

Mastipave—$1.50 per sq. yd.

Battleship Linoleum—⅛"—$3.50 sq. yd.; $\frac{3}{16}$"—$3.50 sq. yd.

Terazzo Floors—$1.50 per sq. ft.

Terazzo Steps—$2.50 per lin. ft.

Mastic Wear Coat—according to type—20c to 35c.

Hardwood Flooring—

Standard Mill grades not available.

Victory Oak—T & G

⅜ x 2¼"	$252.00 per M. plus Cartage
½ x 2"	$210.00
½" x 1½"	200.00

Prefinished Standard & Better Oak Flooring

⅜ x 3¼"	$265.00 per M. plus Cartage
½ x 2½"	237.00 per M. plus Cartage

Maple Flooring

⅜" T & G Clear	$330.00 per M. plus Ctg.
2nd	305.00 per M. plus Ctg.
3rd	255.00 per M. plus Ctg.

Floor Layers' Wage, $2.35 hr. (Legal as of Nov. 1, 1949. Given us by Inlaid Floor Co.)

GLASS—

Single Strength Window Glass	$ .27 per □ ft.
Double Strength Window Glass	.38 per □ ft.
Plate Glass, ¼ polished to 75	1.10 per □ ft.
Plate Glass, ¼ polished, 75 to 100	1.40 per □ ft.
¼ in. Polished Wire Plate Glass	2.00 per □ ft.
¼ in. Rgh. Wire Glass	.64 per □ ft.
Obscure Glass	.45 per □ ft.

Glazing of above is additional.

Glass Blocks $2.75 per □ ft. set in place

HEATING—

Average, $2.50 to $3.00 per sq. ft. of radiation, according to conditions.

Warm air (gravity) average $64 per register.

Forced air average $91 per register.

INSULATION AND WALLBOARD—

Rockwool Insulation—
(2") ..... $65.00 per M sq. ft.
Cotton Insulation—Full-thickness
(3⅝") ..... $95.50 per M sq. ft.
Sisalation Aluminum Insulation—Aluminum coated on both sides ..... $23.50 per M sq. ft.
Tileboard—4'x6' panel ..... $9.00 per panel
Wallboard—½" thickness ..... $55.00 per M sq. ft.
Finished Plank ..... $69.00 per M sq. ft.
Ceiling Tileboard ..... $69.00 per M sq. ft.

IRON—Cost of ornamental iron, cast iron, etc., depends on designs.

LUMBER—

No. 1 Common ..... $85.00 per M
No. 2 Common ..... 83.00 per M
Select O. P. Common ..... 90.00 per M

Flooring—

	Per M Delvd.
V.G.-D.F. B & Btr. 1 x 4 T & G Flooring	$225.00
"C" and better—all	225.00
"D" and better—all	225.00
Rwd. Rustic—"A" grade, medium dry, 6 to 24 ft.	185.00
"B" grade, medium dry	150.00

Plywood ..... 18c to 20c per ft.
Plyscord ..... 11½c per ft.
Plywall ..... 9c per ft.
Plyform ..... 15c per ft.

Shingles (Rwd. not available)—
Red Cedar No. 1—$9.50 per square; No. 2, $7.00; No. 3, $5.00.
Average cost to lay shingles, $6.00 per square.
Cedar Shakes—½" to ¾" x 24/26 in handsplit tapered or split resawn, per square $15.25
¾" to 1¼" x 24/26 in split resawn, per square 17.00
Average cost to lay shakes,— 8.00 per square

MARBLE—(See Dealers)

METAL LATH EXPANDED—

Standard Diamond, 3.40, Copper Bearing, per carloads, per 100 sq. yds. $39.00
Standard Ribbed, ditto $41.00

MILLWORK—Standard.

D. F. $150 per 1000. R. W. Rustic $175 per 1000 (delivered).
Double hung box window frames, average with trim, $12.50 and up, each.
Complete door unit, $15 to $25.
Screen doors, $8.00 to $12.00 each.
Patent screen windows, $1.25 a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., upper $9.00 to $11.00; lower $12.00 to $13.00.
Dining room cases, $20.00 per lineal foot. Rough and finish about $1.00 per sq. ft.
Labor—Rough carpentry, warehouse heavy framing (average), $75.00 per M.
For smaller work average, $85.00 to $100. per 1000.

PAINTING—

Two-coat work ..... per yard 85c
Three-coat work ..... per yard $1.10
Cold water painting ..... per yard 25c
Whitewash no ..... per yard 15c

Linseed Oil, Strictly Pure (Basis 7¾ lbs. per gal.)		Wholesale Raw	Boiled
Light iron drums	per gal.	$2.02	$2.08
5-gallon cans	per gal.	2.14	2.20
1-gallon cans	each	2.26	2.32
Quart cans	each	.62	.64
Pint cans	each	.34	.35

Turpentine (Basis, 7.2 lbs. per gal.)		Pure Gum Spirits
Light iron drums	per gal.	$1.00
5-gallon cans	per gal.	1.12
1-gallon cans	each	1.24
Quart cans	each	.38
Pint cans	each	.23

Replacement Oil—$2.75 per gal. in drums. $2.75 per gal. in 5-gal. containers.
Use Replacement Oil ..... $3.00 per gal. in 1 gal. cont.
A deposit of $7.50 required on all drums.

PATENT CHIMNEYS—

6-inch ..... $2.50 lineal foot
8-inch ..... 3.00 lineal foot
10-inch ..... 4.00 lineal foot
12-inch ..... 5.00 lineal foot

PLASTER—

Neat wall, per ton delivered in S. F. in paper bags, $17.60.

PLASTERING (Interior)—

	Yard
3 Coats, metal lath and plaster	$3.00
Keene cement on metal lath	3.50
Ceilings with ¾ hot roll channels metal lath (lathed only)	3.00
Seilings with ¾ hot roll channels metal lath plastered	4.50
Single partition ¾ channel lath 1 side (lath only	3.00
Single partition ¾ channel lath 2 inches thick plastered	8.00
4-inch double partition ¾ channel lath 2 sides (lath only)	5.75
4-inch double partition ¾ channel lath 2 sides plastered	8.75
Thermax single partition; 1" channels; 2¼" overall partition width. Plastered both sides	7.50
Thermax double partition; 1" channels; 4¾" overall partition width. Plastered both sides	11.00
3 Coats over 1" Thermax nailed to one side wood studs or joists	4.50
3 Coats over 1" Thermax suspended to one side wood studs with spring sound isolation clip	5.00

Note—Channel lath controlled by limitation orders.

PLASTERING (Exterior)—

	Yard
2 coats cement finish, brick or concrete wall	$2.50
3 coats cement finish, No. 18 gauge wire mesh	3.50

Lime—$4.00 per bbl. at yard.
Processed LLiLme—$4.15 per bbl. at yard.
Rock or Grip Lath—⅜"—30c per sq. yd.
⅛"—29c per sq. yd.
Composition Stucco—$4.00 sq. yard (applied).

PLUMBING—

From $200.00 per fixture up, according to grade, quality and runs.

ROOFING—

"Standard" tar and gravel, 4 ply—$11.00 per sq. for 30 sqs. or over.
Less than 30 sqs. $14.00 per sq.
Tile $40.00 to $50.00 per square.
No. 1 Redwood Shingles in place, 4½ in. exposure, per square $18.25
5/2 No. 1 Cedar Shingles, 5 in. exposure, per square 14.50
5/8 x 16"—No. 1 Little Giant Cedar Shingles, 5" exposure, per square .. 18.25
4/2 No. 1-24" Royal Cedar Shingles 7½" exposure, per square 23.00
Re-coat with Gravel $5.50 per sq.
Asbestos Shingles $35 to $45 per sq. laid
½ to ¾ x 25" Resawn Cedar Shakes, 10" Exposure $24.00
¾ to 1¼ x 25" Resawn Cedar Shakes, 10" Exposure $29.00
1 x 25" Resawn Cedar Shakes, 10" Exposure 22.00
Above prices are for shakes in place.

SEWER PIPE—

C.I. 6-in. to 24-in. B. & S. Class B and heavier, per ton $99.50
Vitrified, per foot:
Standard, 8-in. ..... $ .60
Standard, 12-in. 1.17
Standard, 24-in. 5.04
Clay Drain Pipe, per 1,000 L.F. in carload lots:
Standard, 6-in. $211.00
Standard, 8-in. 352.00

SHEET METAL—

Windows—Metal, $2.50 a sq. ft.
Fire doors (average), including hardware $2.80 per sq. ft., size 12'x12'. $3.75 per sq. ft., size 3'x6'.

SKYLIGHTS—(not glazed)

Copper, $1.25 sq. ft. (flat).
Galvanized iron, 65c sq. ft. (flat).
Vented hip skylights, $1.50 sq. ft.

STEEL—STRUCTURAL—

$220 per ton erected, when out of mill.
$270 per ton erected, when out of stock.

STEEL REINFORCING—

$200.00 per ton, in place.
¼-in. Rd. (Less than 1 ton) $7.65
⅜-in. Rd. (Less than 1 ton) 6.55
½-in. Rd. (Less than 1 ton) 6.25
⅝-in. Rd. (Less than 1 ton) 6.00
¾-in. & ⅞-in. Rd. (Less than 1 ton) .. 5.90
1-in. & up (Less than 1 ton) 5.85
1 ton to 5 tons, deduct 15c.

STORE FRONTS (None available).

TILE—

Ceramic Tile Floors—Commercial $1.15 to $1.50.
Cove Base—$1.35 per lin. ft.
Tile Wainscot & Floors—Residential $1.50 to $1.75.
Tile Wainscot—Commercial $1.35 to $1.50.
Asphalt Tile Floor ⅛" x ⅛"—$ .40 per sq. ft. Light shades slightly higher.
Cork Tile—$1.00 per sq. ft.
Mosaic Floors—See dealers.
Lino-Tile—$1.00 per sq. ft.

Wall Tile—
Glazed Terra Cotta Wall Units (single faced) laid in place—approximate prices:

2 x 6 x 12	$1.25 sq. ft.
4 x 6 x 12	1.50 sq. ft.
2 x 8 x 16	1.45 sq. ft.
4 x 8 x 16	1.75 sq. ft.

Building Tile—

8x5½x12-inches, per M	$139.50
6x5½x12-inches, per M	105.00
4x5½x12-inches, per M	84.00

Hollow Tile—

12x12x2-inches, per M	$116.00
12x12x3-inches, per M	124.00
12x12x4-inches, per M	140.00
12x12x6-inches, per M	186.00

F.O.B. Plant

VENETIAN BLINDS—

75c per square foot and up. Installation extra.

WINDOWS—STEEL—

60c per square foot, $5 for ventilators.

ARCHITECT AND ENGINEER
ESTIMATOR'S DIRECTORY
Building And Construction Materials

EXPLANATION—Building and construction materials are shown in major classified groups for general identification purposes with names and addresses of suppliers of materials listed in detail under group classification where name first appears—main offices are shown first, with branch or district offices following. The numeral appearing in listings refers to the major group classification where complete data on the dealer, or representative, may be found.

RCHITECTURAL VENEER (a)
eramic Veneer
PACIFIC CLAY PRODUCTS
San Francisco: 605 Market St., GA 1-3970
Los Angeles, Portland, Salt Lake City
GLADDING, McBEAN & CO. *(1)
rcelain Veneer
PORCELAIN ENAMEL PUBLICITY BUREAU
(Dept. AE-450)
Room 601, Franklin Building, Oakland 12, California
P. O. Box 186, East Pasadena Station, Pasadena 8, California
anite Veneer
VERMONT MARBLE COMPANY
San Francisco: 525 Market Street, SU 1-6747
arble Veneer
VERMONT MARBLE COMPANY
San Francisco: 525 Market Street, SU 1-6747

RICKWORK (1)
ce Brick
GLADDING, McBEAN & CO.
San Francisco: Harrison at 9th Sts., UN 1-7400
Los Angeles: 2901 Los Feliz Blvd., OL 2121
Offices at Portland, Seattle, Spokane
KRAFTILE
Niles, California, Niles 3611
San Francisco 5: 50 Hawthorne St., DO 2-3780
Los Angeles 13: 406 South Main St., MU 7241
REMILLARD-DANDINI CO.
San Francisco: 400 Montgomery St., EX 2-4988

ILDING PAPER & FELTS (2)
SISALKRAFT COMPANY
San Francisco: 55 New Montgomery St., EX 2-3066
Chicago, Ill.: 205 West Wacker Drive
ANGIER PACIFIC CORP.
San Francisco 5: 55 New Montgomery St., DO 2-4416
Los Angeles: 7424 Sunset Boulevard

ILDING HARDWARE (3)
THE STANLEY WORKS
San Francisco: Monadnock Bldg., YU 6-5914
New Britain, Conn.

MENT (c)
PACIFIC PORTLAND CEMENT
San Francisco: 417 Montgomery St., GA 1-4100

ONCRETE AGGREGATES (4)
ightweight Aggregates
AMERICAN PERLITE CORP.
Richmond, Calif.: 26th & B Sts.—Yard 2, RI 4307

RE ESCAPES (5)
SOULE STEEL
San Francisco: 1750 Army St., VA 4-4141
Los Angeles, Calif.—LA 0911
Portland, Ore.—BE 5155
Seattle, Wash.—SE 3010

MICHAEL & PFEFFER IRON WORKS, INC.
San Francisco 3: Tenth & Harrison Sts., MA 1-5966

FLOORS (6)
Hardwood Flooring
HOGAN LUMBER COMPANY
Oakland: Second and Alice Sts., GL 1-6861
E. K. WOOD LUMBER CO.
Los Angeles: 4710 S. Alameda St., JE 3111
Oakland: 727 Kennedy St., KE 4-8466
Portland: 827 Terminal Sales Building

GLASS (7)
W. P. FULLER COMPANY
San Francisco: 301 Mission St., EX 2-7151
Los Angeles, Calif.
Portland, Oregon

HEATING (8)
HENDERSON FURNACE & MFG. CO.
Sebastopol, Calif.
S. T. JOHNSON CO.
Oakland 8: 940 Arlington Ave., OL 2-6000
San Francisco: 585 Potrero Ave., MA 1-2757
Philadelphia 8, Pa.: 401 No. Broad St.
SCOTT COMPANY
San Francisco: 243 Minna St., YU 2-0400
Oakland: 113 - 10th St., GL 1-1937
San Jose, Calif.
Los Angeles, Calif.
THOMAS B. HUNTER (Designer)
San Francisco: 41 Sutter St., GA 1-1164

INSULATION AND WALLBOARD (9)
LUMBER MANUFACTURING CO.
San Francisco: 225 Industrial Ave., JU 7-1760
SISALKRAFT COMPANY *(2)
WESTERN ASBESTOS COMPANY
San Francisco: 675 Townsend St., KL 2-3868
Oakland: 251 Fifth Avenue, GL 1-2345
Sacramento: 1224 I Street, 2-8993
Stockton: 1120 E. Weber Ave., 4-1863
Fresno: 1837 Merced Street, 3-3277
San Jose: 201 So. Market St., BA 4359-J

IRON—Ornamental (10)
MICHEL & PFEFFER IRON WORKS, INC. *(5)

LIGHTING FIXTURES (11)
SMOOT-HOLMAN COMPANY
Inglewood, Calif., OR 8-1217
San Francisco: 55 Mississippi St., MA 1-8474

LUMBER (12)
HOGAN LUMBER COMPANY *(6)
LUMBER MANUFACTURING CO. *(9)
E. K. WOOD LUMBER CO *(6)
Shingles
SIDEWALL LUMBER COMPANY
San Francisco 24: 1995 Oakdale Ave., AT 2-8112

MARBLE (13)
VERMONT MARBLE COMPANY
San Francisco: 525 Market St., SU 1-6747
Los Angeles 4: 3522 Council St., FA 7834

METAL LATH EXPANDED (14)
FORDERER CORNICE WORKS
San Francisco: 269 Potrero Ave., HE 1-4100
SOULE STEEL *(5)

MILLWORK (15)
PACIFIC MANUFACTURING COMPANY
San Francisco: 16 Beale St., GA 1-7755
Santa Clara: 2610 The Alameda, SC 607
Los Angeles: 6820 McKinley Ave., TH 4196
MULLEN MANUFACTURING COMPANY
San Francisco: 60-80 Rausch St., UN 1-5815
LUMBER MANUFACTURING COMPANY *(9)

PAINTING (16)
Paint
W. P. FULLER COMPANY *(7)

PLASTER (17)
Exteriors
PACIFIC PORTLAND CEMENT COMPANY*(4)
Interiors—Metal Lath & Trim
FORDERER CORNICE WORKS *(14)

PLASTIC CEMENT (f)
PACIFIC PORTLAND CEMENT CO.
San Francisco: 417 Montgomery St., GA 1-4100

PLUMBING (18)
THE SCOTT COMPANY *(8)
THE HALSEY TAYLOR COMPANY
Redlands, Calif.
Warren, Ohio
HAWS DRINKING FAUCET COMPANY
Berkeley 10: 1435 Fourth St., LA 5-3341
CONTINENTAL WATER HEATER COMPANY
Los Angeles 31: 1801 Pasadena Ave., CA 6178
SIMONDS MACHINERY COMPANY
San Francisco: 816 Folsom St., DO 2-6794
Los Angeles: 455 East 4th St., MU 8322
SECURITY VALVE COMPANY
Los Angeles 31: 410 San Fernando Rd., CA 6191

SEWER PIPE (19)
GLADDING, McBEAN & CO. *(1)

PACIFIC CLAY PRODUCTS
San Francisco: 605 Market St., GA 1-3970
Los Angeles, Portland, Salt Lake City

SHEET METAL (20)

Windows

DETROIT STEEL PRODUCTS COMPANY
Oakland 8: 1310 - 63rd St., OL 2-8826
San Francisco: Russ Building, DO 2-0890

MICHEL & PFEFFER IRON WORKS, INC. *(5)
SOULE STEEL COMPANY *(5)

Fire Doors

DETROIT STEEL PRODUCTS COMPANY

Skylights

DETROIT STEEL PRODUCTS COMPANY

STEEL—STRUCTURAL (21)

HERRICK IRON WORKS
Oakland: 18th & Campbell Sts., GL 1-1767

JUDSON PACIFIC-MURPHY CORP.
Emeryville: 4300 Eastshore Highway, OL 3-1717

REPUBLIC STEEL CORP.
San Francisco: 116 N. Montgomery St., GA 1-0977
Los Angeles: Edison Building
Seattle: White-Henry-Stuart Building
Salt Lake City: Walker Bank Building
Denver: Continental Oil Building

KRAFTILE COMPANY *(1)

SAN JOSE STEEL COMPANY
San Jose: 195 North Thirtieth St., CO 4184

STEEL—REINFORCING (22)

REPUBLIC STEEL CORP. *(21)
HERRICK IORN WORKS *(21)
SAN JOSE STEEL CO. *(21)

TILE (23)

GLADDING, McBEAN & CO. *(1)
KRAFTILE COMPANY *(1)
PACIFIC CLAY PRODUCTS
San Francisco: 605 Market St., GA 1-3970
Los Angeles, Portland, Salt Lake City

TIMBER—REINFORCING (b)

Trusses

WEYERHAEUSER SALES CO.
Tacoma, Wash.
St. Paul, Minn.
Newark, N. J.

Treated Timber

J. H. BAXTER CO.
San Francisco 4: 333 Montgomery St., DO 2-3883
Los Angeles 13: 601 West Fifth St., MI 6294

WALL TILE (24)

GLADDING, McBEAN & CO. *(1)
KRAFTILE COMPANY *(1)

WINDOWS STEEL (25)

DETROIT STEEL PRODUCTS CO. *(20)
MICHEL & PFEFFER IRON WORKS, INC.*
SOULE STEEL COMPANY *(5)

GENERAL CONTRACTORS (26)

DINWIDDIE CONSTRUCTION COMPANY
San Francisco: Crocker Building, YU 6-2718

CLINTON CONSTRUCTION COMPANY
San Francisco: 923 Folsom St., SU 1-3440

MATTOCK CONSTRUCTION COMPANY
San Francisco: 604 Mission St., GA 1-5516

STOLTE, INC.
Oakland: 8451 San Leandro Blvd., TR 2-1064

SWINERTON & WALBERG COMPANY
San Francisco: 225 Bush St., GA 1-2980
Oakland: 1723 Webster St., HI 4-4322
Los Angeles, Sacramento, Denver

P. J. WALKER COMPANY
San Francisco: 391 Sutter St., YU 6-5916
Los Angeles: 3920 Whiteside St., AN 9-8567

TESTING LABORATORIES (ENGINEERS & CHEMISTS) (27)

ABBOT A. HANKS, INC.
San Francisco: 624 Sacramento St., GA 1-16

ROBERT W. HUNT COMPANY
San Francisco: 251 Kearny St., EX 2-4634
Los Angeles: 3050 E. Slauson, JE 9131
Chicago, New York, Pittsburgh

PITTSBURGH TESTING LABORATORY
San Francisco: 651 Howard St., EX 2-1747

BUILDING TRADES WAGE (JOB SITES) NORTHERN, CENTRAL AND SOUTHERN CALIFORNIA

ATTENTION: The following are the PREVAILING hourly rates of compensation being paid and in effect by employers by agreement between employees and their union; or as recognized and determined by the U. S. Department of Labor. (Revised to Sept. 1, 1949.)

CRAFT	San Francisco	Alameda	Contra Costa	Fresno	Sacramento	Santa Clara	Solano	Stockton	Los Angeles	San Bernardino	San Diego	Santa Barbara	Kern
ASBESTOS WORKERS	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.25	$2.25	$2.25	$2.25	$2.25
BRICKLAYERS	3.00*	3.00	3.00	2.50	3.00	3.00	3.00	2.05*	2.265	2.50	2.50	2.625	2.50
BRICKLAYERS, HODCARRIERS	2.25	2.25	2.25	2.00	2.00	1.75	2.25	1.60*	1.75	1.75	1.75	1.75	1.75
CARPENTERS	2.16	2.16	2.175	2.175	2.175	2.175	2.175	2.175	2.12	2.12	2.12	2.12	2.12
CEMENT FINISHERS	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20
ELECTRICIANS	2.50	2.50	2.50	2.25	2.50	2.50	2.40	2.40	2.40	2.40	2.375	2.40	2.15
ELEVATOR CONSTRUCTORS	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.25	2.25	2.25	2.25	2.25
ENGINEERS: MATERIAL HOIST	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	1.9875	1.9875	1.9875	1.9875	1.9875
PILE DRIVER	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.32	2.32	2.32	2.32	2.32
STRUCTURAL STEEL	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.30	2.30	2.2375	2.30	2.30
GLAZIERS	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.96
IRONWORKERS: ORNAMENTAL	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.175	2.175	2.1125	2.175	2.175
REINF. RODMEN	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.20	2.20	2.20	2.20	2.20
STRUCTURAL	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.30	2.30	2.2375	2.30	2.30
LABORERS: BUILDING	1.55	1.55	1.55	1.45	1.55	1.45	1.55	1.55	1.57	1.57	1.57	1.57	1.57
CONCRETE	1.55	1.55	1.55	1.45	1.55	1.45	1.55	1.55	1.57	1.57	1.57	1.57	1.57
LATHERS	2.8125	2.8125	2.8125	2.8125	2.00*	2.50*	2.8125	2.8125	2.50	2.50	2.50	2.50	2.50
MARBLE SETTERS	2.375	2.375	2.375	2.375	2.375	2.375	2.375	2.375	2.25	2.25	2.25	2.25	2.25
MOSAIC & TERRAZZO	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.40	2.40	2.20	2.40	2.40
PAINTERS	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.00	1.90	2.10	2.18	2.25
PILEDRIVERS	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25
PLASTERERS	2.8125	2.50*	2.50*	2.25*	2.25*	2.50*	2.50*	2.8125	2.50	2.75	2.50	2.50	2.50
PLASTERERS, HODCARRIERS	2.50	2.25*	2.25*	1.775*	2.00*	2.00*	2.25*	2.16	2.15	2.25	2.30	2.00	2.00
PLUMBERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
ROOFERS	2.25	2.25	2.25	1.875	2.00	2.00	2.16	2.25	2.25	2.00	1.90	2.00	2.00
SHEET METAL WORKERS	2.25	2.25	2.25	2.125	2.30	2.40	2.125	2.125	2.15	2.15	2.175	2.00	2.15
SPRINKLER FITTERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.25	2.25	2.25	2.25	2.25
STEAMFITTERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
STONESETTERS (MASONS)	3.00	2.8125	2.8125	2.25*	2.8125	2.8125	2.8125	2.05*	1.50	1.50	1.50	2.625	1.215
TILESETTERS	2.675	2.675	2.675	2.15	2.00	2.675	2.675	2.4375	2.50	2.50	2.20	2.50	2.25

* 6 Hour Day. ** 7 Hour Day.

Prepared and compiled by:
CENTRAL CALIFORNIA CHAPTER, ASSOCIATED GENERAL CONTRACTORS OF AMERICA, with the assistance and cooperation of secretaries of General Contractors Associations and Builders Exchanges of Northern California; and the above information for southern California is furnished by the Labor Relations Department of the Southern California Chapter, ASSOCIATED GENERAL CONTRACTORS OF AMERICA.

CLASSIFIED ADVERTISING

RATE: 20c PER WORD . . . CASH WITH ORDER — MINIMUM $5.00

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ABRAM JOINS ALADDIN

John C. Abram has joined the Aladdin Heating Corporation's offices in San Francisco, according to a recent announcement by the company.

He will become a part of the Blower Division staff.

Abram, a graduate of the University of California College of Engineering in 1942, has been associated with an engineering firm in Los Angeles.

NEW MEDICAL OFFICE BUILDING

The Franklin Medical Center Building Corporation of San Francisco recently announced the development of a three-story and basement reinforced concrete building to be used as a medical office building.

Plans call for the construction of the new building on Castro Street, between 14th and Noe streets, at an estimated cost of $1,000,000.

W. D. Peugh, San Francisco, is the architect.

WATER SOFTENERS MEET

The first annual meeting of the National Association of Water Conditioning Equipment Manufacturers will be held March 7 and 8 in Chicago, according to an announcement by Herbert C. Angster, executive secretary of the association.

LARGE ADDITION TO HOSPITAL

The O'Connor Hospital at San Jose (California) recently announced an expansion program calling for the construction of a 100-bed addition to cost $3,000,000.

The new addition will be of three story height, plus basement, and will be of reinforced concrete and structural steel construction.

The architectural firm of Maguolo and Quick of St. Louis, Missouri, are designing the addition with architect Frank T. Georgeson of San Francisco, serving as resident architect on the job.

ADDITIONS TO PRISON FARM

The Board of Supervisors of San Joaquin county have authorized the construction of a 125-man dormitory building at the French Camp county prison farm.

The buildings to be of concrete construction, with a composition roof, will cost in the neighborhood of $97,600, according to Elmore G. Ernst, architect of Stockton.

COMMERCIAL STANDARD FOR VITREOUS PLUMBING FIXTURE

The fifth edition of the Commercial Standard for Vitreous China Plumbing Fixtures has just been published, according to a recent announcement by the Plumbing and Heating Industries Bureau.

Identified as "Commercial Standard CS20-49, the purpose of the standard is to establish a basic specification for vitreous china plumbing fixtures for the guidance of manufacturers, distributors, contractors, and purchasers. The new issue establishes uniform nomenclature, definitions, and method of grade vitreous china plumbing fixtures, and includes requirements for material, construction, testing, marketing, and labeling.

Standard dimensions and general practices are given for water closet bowls, tanks, lavatories, urinals, sinks, and laundry trays classed as staple lines.

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Published Daily

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68 Post Street, San Francisco - DO 8311

CONSTRUCTION CONTRACTS AWARDED AND MISCELLANEOUS PERSONNEL DATA

LEWIS GRAMMAR SCHOOL ADDITION, Santa Rosa, Sonoma County. Santa Rosa Elementary School District, owner. 4 classrooms and toilet rooms and kindergarten, $71,400. ARCHITECT: C. A. Caulkins, Santa Rosa. Frame and stucco construction. GENERAL CONTRACTOR: Central State Construction Co., San Francisco.

HIGH SCHOOL BUILDING, Chester, Plumas County. Plumas County Unified School District, owner. Classrooms, offices, science-domestic science, boiler room and toilet rooms, $255,177. ARCHITECT: Thomson & Evans, Oakland. Frame construction, some structural steel, aluminum roof. GENERAL CONTRACTOR: Francies Construction Co., Santa Rosa.

MASONIC TEMPLE, Oakland, Alameda County. Foothill Masonic Temple Assoc., owner. $103,347. ARCHITECT: A. Lewis Koue, Oakland. 1 story, reinforced concrete and structural steel frame construction. GENERAL CONTRACTOR: Harry K. Jensen, Oakland.

ST. CYRIL PAROCHIAL SCHOOL ADDITION, Oakland, Alameda County. Roman Catholic Archbishop of San Francisco, owner. Chapel and rectory, $292,668. ARCHITECT: Blanchard & Maher, San Francisco. Chapel, reinforced concrete construction; rectory, frame and stucco construction. GENERAL CONTRACTOR: Pacific Coast Builders, San Francisco.

VETERANS' MEMORIAL BUILDING, Colfox, Placer County. County of Placer, owner. $53,592. ARCHITECT: Geo. C. Sellon, Sacramento. 1 story, frame and stucco construction. GENERAL CONTRACTOR: R. E. Griffin, Richmond.

FIRE HOUSE, Emeryville, Alameda County. City of Emeryville, owner. $75,628. ARCHITECT: Ed Cerruti. 1 story, reinforced concrete and frame construction, composition roof, steel sash. GENERAL CONTRACTOR: Gaspard & Henderson, San Francisco.

EL SAUSAL JR. HIGH SCHOOL ADDITION, Salinas, Monterey County. Salinas Board of Education, owner. 12 classrooms, 2 gymnasiums, cafeteria, library and shops, $808,760. ARCHITECT: Chas. E. Butner, Salinas. STRUCTURAL ENGINEER: F. W. Kellberg, San Francisco. MECHANICAL ENGINEER: Clyde E. Bentley, San Francisco. Frame and stucco construction, auditorium structural steel frame. GENERAL CONTRACTOR: Lembke Construction Co., Las Vegas.

NEW ROOSEVELT SCHOOL, Modesto, Stanislaus County. Modesto Board of Education, owner. 16 classrooms, administration, domestic science, science rooms, art music, shower and dressing roams, shop and toilet rooms, $563,646. ARCHITECT: Swartz & Hyberg, Fresno. Frame and stucco construction, concrete flaors, radiant heating. GENERAL CONTRACTOR: Harris Construction Co., Fresno.

CHURCH, Menlo Park, San Mateo County. Holy Trinity Episcopal Church, owner. 250 seating capacity, $69,848. ARCHITECT: Kingsford Jones, Palo Alto. Structural steel frame and wood exterior. GENERAL CONTRACTOR: Harris & Fjeldheim, Menlo Park.

OFFICE BUILDING AND 24 APARTMENTS, Merced, Merced County. Farmers Insurance Group, owner. $704,270. ARCHITECT: Walter Wagner, Fresno. 35,000 sq. ft. of floor space. GENERAL CONTRACTOR: (Office Building) Trewhitt, Shields & Fisher, Fresno. GENERAL CONTRACTOR: (24 Apartments) Leslie Fitchett & Son, Merced.

NEW COLUMBUS SCHOOL, Berkeley, Alameda County. Berkeley Board of Education, owner. 19 classrooms, 2 kindergartens, cafeteria, auditorium, administration and community room, $709,456. ARCHITECT: John Lyon Reid, San Francisco. 2 story, reinforced concrete construction and frame. GENERAL CONTRACTOR: Moore & Roberts, San Francisco.

STORE BUILDING, San Mateo, San Mateo County. Sears-Roebuck & Co., owner. Approximately $500,000. ARCHITECT: W. D. Peugh, San Francisco. 2-story and basement concrete construction, brick veneer. GENERAL CONTRACTOR: Williams & Burraws, Burlingame.

STORE BUILDING, REMODEL AND ADDITION, Ukiah, Mendocino County. Geo. D. Merk, owner. $42,000. ARCHITECT: Frank O. Merwin, San Francisco. Remove front of building and construct reinforced concrete and brick and plate glass front and addition to rear. GENERAL CONTRACTOR: Swan Sioberg, Ukiah.

NEW GRAMMAR SCHOOL, Hilmar, Merced County. Elim Union Elementary School District, owner. 4 classrooms, offices and toilet rooms, $59,800. ARCHITECT: Robt. C. Kaestner, Visalia. Frame and stucco construction. GENERAL CONTRACTOR: Spears Construction Co., Modesto.

RESIDENCE, Woodside, San Mateo County. Mr. Mein, owner. $60,000. ARCHITECT: Gardner A. Dailey, San Francisco. Frame and stucco construction. GENERAL CONTRACTOR: M. C. Ingraham, Palo Alto.

SUNDAY SCHOOL BUILDING, San Mateo, San Mateo County. Hillsdale Methodist Church, owner. $51,787. ARCHITECT: Alfred W. Johnson, San Francisco. Frame and stucco construction. GENERAL CONTRACTOR: Cardinal Constructors, San Mateo.

NEW McNEAR GRAMMAR SCHOOL, Petaluma, Sonoma County. Petaluma Elementary School District, owner. 11 classrooms, kindergarten, offices, multi-use room and toilet rooms, $255,995. ARCHITECT: Robert Stanton, Carmel. Frame and stucco construction. GENERAL CONTRACTOR: Litchfield Construction Co., San Rafael.

APARTMENT BUILDING, Reno, Nevada. Frank Hammond, owner. 8 apartments. $43,401. DRAFTSMAN: Milfred Wheeler & Robt. E. Gray, Reno. 2-story, frame and brick veneer construction. GENERAL CONTRACTOR: Walker Boudwin Construction Co., Reno.

HOSPITAL ADDITION, Atwater, Merced County. City of Atwater, owner. 16 bed wing, $46,119. ARCHITECT: Walter Wagner, Merced. Frame and stucco construction, tile roof, steam heating. GENERAL CONTRACTOR: Graham & Jensen, Merced.

2 SHOP BUILDINGS, Gridley, Butte County. Gridley Union High School, owner. Industrial arts and auto shop, $128,775. ARCHITECT: Chas. F. Dean, Sacramento. Structural frame and frame and stucco construction. GENERAL CONTRACTOR: D. . Faull, Santa Rosa.

RESIDENCE, Hillsborough, San Mateo County. A. J. Batteate, Jr., owner. 8 rooms, 3½ baths, $49,527. ARCHITECT: Sharps & Brown, Burlingame. Frame and brick veneer and shingle exterior, shingle roof. GENERAL CONTRACTOR: Herman T. Holsher, San Mateo.

MOTEL AND SWIMMING POOL, Lake Tahoe, State Line, Nevada. Sahati Bros., owner. 19 units. $112,450. ARCHITECT: Vincent G. Raney, San Francisco. Frame construction, redwood exterior. GENERAL CONTRACTOR: Dan A. Nevis, Lake Tahoe.

OFFICE AND WAREHOUSE, Sacramento, Sacramento County. McKesson & Robbins, owner. $443,000. ARCHITECT: Herbert Goodpastor, Sacramento. 1 story, 240x420, reinforced concrete and structural scteel construction, wood roof, steel sash. GENERAL CONTRACTOR: Affiliated Engineers & Contractors, Sacramento.

NEW HIGH SCHOOL BUILDING, Atherton, San Mateo County. Sequoia Union High School District, owner. Classrooms, administration, library, multi-purpose room, music, shop, 2 locker buildings, $1,433,045. ARCHITECT: Arthur D. Janssen, Menlo Park. Concrete block and frame construction, some structural steel, some brick veneer. GENERAL CONTRACTOR: Peter Sarenson, Redwood City.

MEAT PACKING HOUSE, Oakland, Alameda County. Holly Meat Packing Co., owner. $129,000. ARCHITECT: A. John Novelli, Oakland. 1 story, steel frame. GENERAL CONTRACTOR: Geo. T. Robinson Construction Company, San Francisco.

MEDICAL BUILDING, Watsonville, Santa Cruz County. Dr. J. A. Spencer, owner. Draftsman: Chas. W. Lawrence, Santa Cruz. 1 story frame and stucco and Arizona flagstone. GENERAL CONTRACTOR: Lloyd Hamilton, Watsonville.

BARDIN GRAMMAR SCHOOL, Salinas Monterey County. Alisal Union Elementary School District, owner. 5 classrooms, kindergarten, offices and toilet room, $145,231. ARCHITECT: Wm. H. Rowe, San Francisco. Frame and stucco construction. GENERAL CONTRACTOR: Ed M. Carlsen, Salinas.

WAREHOUSE BUILDING, San Jose, Santa Clara County. Santa Clara Packing Company, owner, $138,843. ENGINEER: J. Y. Long Co., Oakland. 1 story, 190x280, 55,000 sq. ft., reinforced concrete and structural steel frame, wood rooi. GENERAL CONTRACTOR: Parker, Steffens & Pearce, San Francisco.

PAROCHIAL SCHOOL ADDITION, San Francisco. Roman Catholic Archbishop of S. F., owner. 5 classrooms, St. Emydius Parish, $69,400. ARCHITECT: Henry A. Minton and Milton Smith, San Francisco. Reinforced concrete and frame construction. GENERAL CONTRACTOR: Carrico & Gautier, San Francisco.

GYMNASIUM BUILDING, Redding, Shasta County. Shasta Union High School and Junior College, owner. $420,616. ARCHITECT: Chas. F. Dean, Sacramento. GENERAL CONTRACTOR: B. & R. Construction Co., San Francisco.

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LINCOLN ELEMENTARY SCHOOL ADD'N., Taft, Kern County. Taft Elementary School Dist., owner. 2 classrooms and toilet rooms, $56,846. ARCHITECT: Ernest L. McCoy, Bakersfield. GENERAL CONTRACTOR: John Howard Construction Co., Taft.

GRAMMAR SCHOOL, San Joaquin, Fresno County. San Joaquin Elementary School District, owner. 4 classrooms, offices and community room, $102,500. ARCHITECT: Philip S. Buckingham, Fresno. Frame and stucco construction. GENERAL CONTRACTOR: Lewis C. Nelson & Son, Selma.

OFFICE AND WAREHOUSE BUILDING, San Francisco. Olsen & Hefferman, owner. $66,190. ARCHITECT: Ernest Born, San Francisco. 1 story, 70x135, reinforced concrete and brick walls, structural steel frame. GENERAL CONTRACTOR: A. M. Hardy, San Francisco.

PARISH HALL, San Francisco. Zion Evangelical Lutheran Church, owner. 1st unit of church, $62,801. ARCHITECT: Arnold & Francis Constable, Sausalito. 1 story, reinforced concrete and flat wood roof. GENERAL CONTRACTOR: O. C. Moroney, Burlingame.

SHOPPING CENTER. San Jose, Santa Clara County. Herschel C. Graham, owner. 5 stores, $71,395. ARCHITECT: Higgins & Root, San Jose. 1 story, frame construction. GENERAL CONTRACTOR: Nielsen & Nielsen, San Jose.

GRAMMAR SCHOOL, Redding, Shasta County. Pacheco Elementary School District, owner. 3 classrooms, offices and toilet rooms, $63,993. ARCHITECT: J. Clarence Felciano, Santa Rosa. Frame and stucco construction. GENERAL CONTRACTOR: O'Connor Brothers, Red Bluff.

NEW COUNTY GENERAL HOSPITAL. Merced, Merced County. County of Merced, owner. 76 beds, $881,500. ARCHITECT: Chas. E. Butner, Salinas and A. & A. MacKenzie Cantin, San Francisco. STRUCTURAL ENGINEER: F. W. Kellberg, San Francisco. 1 and 3 story, reinforced concrete construction, 2 elevators. GENERAL CONTRACTOR: Dahs Construction Co., Fresno.

ST. MONICA CHURCH AND PARISH HALL ADD'N., San Francisco. Roman Catholic Archbishop of S. F., owner. $150,000. ARCHITECT: Arnold & Francis Constable, Sausalito. 60x82, reinforced concrete and structural steel construction. GENERAL CONTRACTOR: Robt. McCarthy Co., San Francisco.

NEW Y.M.C.A. BUILDING, San Mateo, San Mateo County. Peninsula Y.M.C.A., owner. $124,599. ARCHITECT: Alfred W. Johnson, San Francisco. Gymnasium, locker rooms, social hall, recreation and administration rooms, 1 story, frame and stucco construction. GENERAL CONTRACTOR: Wilfred H. May, Belmont.

NEW GRAMMAR SCHOOL, Windsor, Sonoma County. Windsor Union Elementary School District, owner. 8 classrooms, offices and toilet rooms, $153,849. ARCHITECT: J. Clarence Felciano, Santa Rosa. Frame and stucco construction. GENERAL CONTRACTOR: A. J. Hopper, San Francisco.

NEW LE CONTE SCHOOL, Berkeley, Alameda County. Berkeley Board of Education, owner. 14 classrooms, 2 kindergartens, offices, cafeteria, auditorium and toilet rooms. $652,377. ARCHITECT: Dragon, Schmidts & Hardman. Reinforced concrete construction. GENERAL CONTRACTOR: John E. Branagh & Son, Piedmont.

BREWERY ADDITION. San Francisco. Lucky Lager Brewing Co., owner. $45,000. ARCHITECT: Meyer & Evers, San Francisco. Reinforced concrete construction. GENERAL CONTRACTOR: Cahill Bros., San Francisco.

GRAMMAR SCHOOL ADDITION. Mt. View, Santa Clara County. Mt. View Elementary School District, owner. 4 classrooms. $59,185. ARCHITECT: Birge M. Clark and Walter Stromquist, Palo Alto. Frame and stucco construction. GENERAL CONTRACTOR: Earl W. Emley, Saratoga.

NEW GRAMMAR SCHOOL, Tulare, Tulare County. Sundale Union Elementary School District, owner. 14 classrooms, offices and toilet rooms, $249,734. ARCHITECT: Robt. C. Kaestner, Visalia. Frame and stucco construction. GENERAL CONTRACTOR: Oppenheim & King, Fresno.

OFFICE BUILDING, Bakersfield, Kern County. Superior Oil Co., owner. $103,000. ARCHITECT: Ernest L. McCoy, Bakersfield. GENERAL CONTRACTOR: Willard K. Michael, Bakersfield.

HOSPITAL BUILDING, Mariposa, Mariposa County. John C. Fremont Hospital District, owner. 40 beds, $302,240. ARCHITECT: Robt. Stanton, Carmel. 1 story, class A, reinforced concrete construction, steel sash, asphalt tile floors. GENERAL CONTRACTOR: K. J. McGranahan, Santa Cruz.

VETERANS WAR MEMORIAL AND AUDITORIUM BLDG., Santa Rosa, Sonoma County. County of Sonoma, owner. 1500 seating capacity, $561,300. ARCHITECT: C. A. Caulkins, Santa Rosa. 1 story, reinforced concrete construction. GENERAL CONTRACTOR: C. S. Phillips, Petaluma.

SWIMMING POOL, SHOWER AND LOCKER BUILDING, Redwood City, San Mateo County. City of Redwood, owner. $79,390. ARCHITECT: L. F. Richards, Santa Clara. Pool, reinforced concrete. Shower and locker building; frame and stucco construction. GENERAL CONTRACTOR: Hedahl-Martin Co., Redwood City.

MEMORIAL BUILDING, Clovis, Fresno County. Clovis Memorial District, owner. $119,739. ARCHITECT: Clayton Van Wanger, Oakland. GENERAL CONTRACTOR: Van Bokkelen Cole Co., Oakland.

SUNSET RESERVOIR HOME SCHOOL PROJECT. San Francisco. City and County of San Francisco, owner. 4 classrooms, 2 kindergartens, offices, enclosed play and lunch area, toilet rooms, $219,752. ARCHITECT: Alfred W. Johnson, San Francisco. Reinforced concrete construction. GENERAL CONTRACTOR: Martinelli Construction Co., San Francisco.

CHURCH, Fresno, Fresno County. Christian & Missionary Alliance, owner. $50,000. ARCHITECT: Fay R. Spangler, Fresno. Frame and stucco construction, GENERAL CONTRACTOR: L. B. Pipes, Fresno.

FIRE HOUSE, Fresno, Fresno County. City of Fresno, owner. $60,843. ARCHITECT: Benjamin Franklin Lippold, Fresno. GENERAL CONTRACTOR: L. H. Hansen & Sons, Fresno.

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IN THE NEWS

ASSOCIATION OF WASHINGTON CITIES REPORT PROGRESS

Joshua Vogel, Planning and Public Works Consultant of the Association of Washington Cities, reports that during the past year eighty-seven new City Planning Commissions and fifteen new County Planning Commissions have been formed throughout the State of Washington. Four additional cities have adopted new zoning ordinances.

The report also discloses the fact that the State of Washington has taken over the jurisdiction of state highways through the cities, and several cities have adopted structural requirements for earthquake protection.

DRAWINGS COMPLETED COMMUNITY HOSPITAL

The Peninsula Hospital District of Hillsborough (California) recently announced the completion of preliminary drawings for the construction of a 100 bed Community Hospital to be built at a cost of $2,950,000.

D. D. Stone and Lou Mulloy, San Francisco, are the architects.

Construction will include a five-story, T-shaped, reinforced concrete building.

PLAN NEW COUNTY GENERAL HOSPITAL

The County of Merced is planning the construction of a new seventy-six bed county hospital at a cost of $1,000,000. Consisting of one and three story structures the buildings will be of reinforced concrete construction.

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San Jose: 201 So. Market St., CY 3-1317

Chas. E. Butner of Salinas, California, and A. & A. MacKenzie of San Francisco are the architects.

STATE FUNDS FOR SCHOOL

The Auburn Union Elementary School District has received a grant of $69,300 from the State of California for the construction of a 10 classroom, office, and toilet room Grammar School building in Auburn, Placer County.

GRAMMAR SCHOOL FUNDS

Approval of a $250,000 bond issue for the construction of an addition to the Redding (California) Grammar School was recently voted by the Redding Elementary School District.

NEW GRAMMAR SCHOOL

The State of California has allotted the sum of $115,000 to the Fairfax Elementary School District, Marin county, for the construction of a new Grammar School building in Fairfax (California) containing eight classrooms, offices and toilet rooms.

John Lyon Reid, San Francisco, is the architect.

STATE AND FEDERAL FUNDS

The Hospital Central Committee of the counties of Shasta, Siskiyou, Lassen and Trinity has been allotted a sum of $750,000 in State and Federal funds for the construction of the Cascade Tuberculosis Hospital of seventy-five beds near Redding, California.

E. Geoffrey Bangs, San Francisco, is the architect. The proposed hospital will be of one story, reinforced concrete construction.

NEW ADMINISTRATION BUILDING FOR SAN FRANCISCO'S AIRPORT

The Public Utilities Commission of the City and County of San Francisco has approved the construction of a new $5,000,000 Airport Administration Building at the San Francisco Municipal Airport, according to a recent announcement.

W. P. Day & Associates of San Francisco are the architects and are working on plans for a four story reinforced concrete and steel structure which will contain administrative offices, ticket offices, waiting rooms, cafeteria, cocktail lounge, coffee shop, and baggage room.

CONSTRUCTION STARTS ON RESIDENTIAL PROJECT

Construction of 110 residences on the lower Sacramento Road near Stockton has been started by owners Sims & Grupe of Stockton.

The houses, which it is estimated will cost approximately $6,000 each, are being built by the Nomellini Construction Company of Stockton.

WINS ARIZONA STATE COLLEGE DESIGN

Robert Williams of San Fernando, California, and Francis Bricker of Phoenix, Arizona, students at the Arizona State College, recently won a contest to design a new State Capitol Building.

The winning plan provided that legislative chambers be sunken in the ground with louvered wall sides of glass, steel and reinforced concrete running north and south, to provide maximum lighting air conditions.

Including a twelve story tower, the building would contain 300,000 sq. ft. of floor space and would cost approximately $3,000,000 to build.

Judges included Fred Guirey of the architectural firm of Guirey & Jones, Phoenix; and Mel Ensign and James W. Elmore, Tempe faculty architects.

ELECTED PRESIDENT OF THE NATIONAL ACADEMY SCIENCES

Dr. Detlev W. Bronk, president of Johns Hopkins University, and chairman of the National Research Council, was recently elected president of the National Academy of Sciences.

Dr. Bronk will take office on July 1.

CHAIRMAN BUILDING RESEARCH ADVISORY BOARD IS SELECTED

Dr. Frederick L. Hovde, president of Purdue University and an outstanding authority on research in the natural sciences, has accepted the chairmanship of the Building Research Advisory Board.

He succeeds the late Dr. Frank B. Jewett.

ARCHITECT SELECTED

DeLongchamps & O'Brien, architects of Reno, Nevada, have been selected as the architects on a new high school building to be built at Sparks, Nevada, for the Sparks High School District.

NAMED PRESIDENT CLAY PRODUCTS

John D. Fredericks has been named president of the Pacific Clay Products company to succeed the late Roy Lacy, according to a recent announcement by the Board of Directors of the firm.

ARCHITECTURAL FIRM FORMED

Announcement has been made of the organization of the architectural firm of Lockard & Casazza in Reno, Nevada, with offices at 232 West First Street.

E. Keith Lockard, A.I.A., and Ralph A. Casazza comprise the partnership.

CHAMPION BRICKLAYER

William J. Rae, 20 year old bricklayer of Denver, Colorado, won the National Apprentice Brickmasonry Championship at Philadelphia recently.

He competed with five finalists in a national competition that represented twenty-two states and 42 apprentices. The contest was limited to union apprentices with less than two years at their trade and the award was made on the basis of workmanship and manipulative skills and not on speed.

The contest was staged in conjunction with the Structural Clay Products Institute's annual convention.

HIGH SCHOOL BONDS VOTED

Voters of the Campbell Union High School District, Santa Clara county, have approved a bond issue of $950,000 for the construction of an addition to the Campbell High School.

ARCHITECTURAL EXAMS

The California State Board of Architectural Examiners scheduled a written examination for applicants seeking architectural licenses this month in southern and northern California.

The theme of the design problem was "A Small Transportation Terminal" and more than 217 applicants registered for the examination.

ARCHITECT SELECTED

Architect Donald L. Hardison of Richmond (California) has been selected as the architect for the Housing Authority of the

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City of Richmond who propose the construction of a 300 unit low income housing project in Richmond.

NEW ARCHITECTURAL FIRM ORGANIZED IN BERKELEY

The organization of Russell Guerne deLappe and Association has been formed to engage in research and planning in the fields of construction and community development.

Officers include Russell Guerne deLappe, Architect, President; Mitchell Van Bourg, Architect, Vice-President; and Herbert Malley, Planning Consultant, Vice-President.

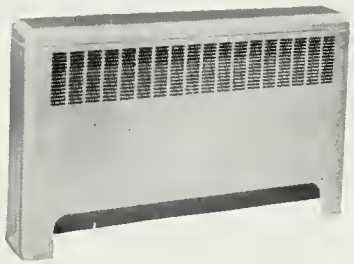
Offices of the new organization are located in the Hotel Claremont, Berkeley.

HOUSING ARCHITECT SELECTED

The architectural firms of Harry J. Devine, Herbert Goodpastor and Darovetto & Thomas of Sacramento, has been selected by the Housing Authority of the City and County of Sacramento, to design a 450 unit low income housing project to be erected in Sacramento.

NEW LINE OF CONVECTORS FOR HOT WATER OR STEAM

The Airtherm line of Convectors for hot water or steam heating systems has been redesigned to provide more attractive appearance and more rigid construction, with two new models being added.



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ARCHITECTS SELECTED

The Housing Authority of the City and County of Sacramento have announced the appointment of Harry J. Devine, Herbert Goodpastor, and Baravetto & Thomas of Sacramento, as architects on the city's proposed low income housing project which will soon get under way.

The project calls for the construction of some 250 units at an estimated cost of $2,250,000.

SCHOOL BONDS VOTED

Voters of the Beamer Grammar School district have authorized the issuance of $250,000 in school bonds for the construction of an addition to the Beamer Grammar School.

Construction is under supervision of the Woodland (California) Board of Education with Dragon, Schmidts & Hardman of Berkely the architects.

WORLD TRANSPORTATION FAIR

Thousands of dollars worth of new construction will be done at Santa Anita Park in preparation of the World Transportation

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624 Sacramento Street, San Francisco

ARCHITECT AND ENGINEER

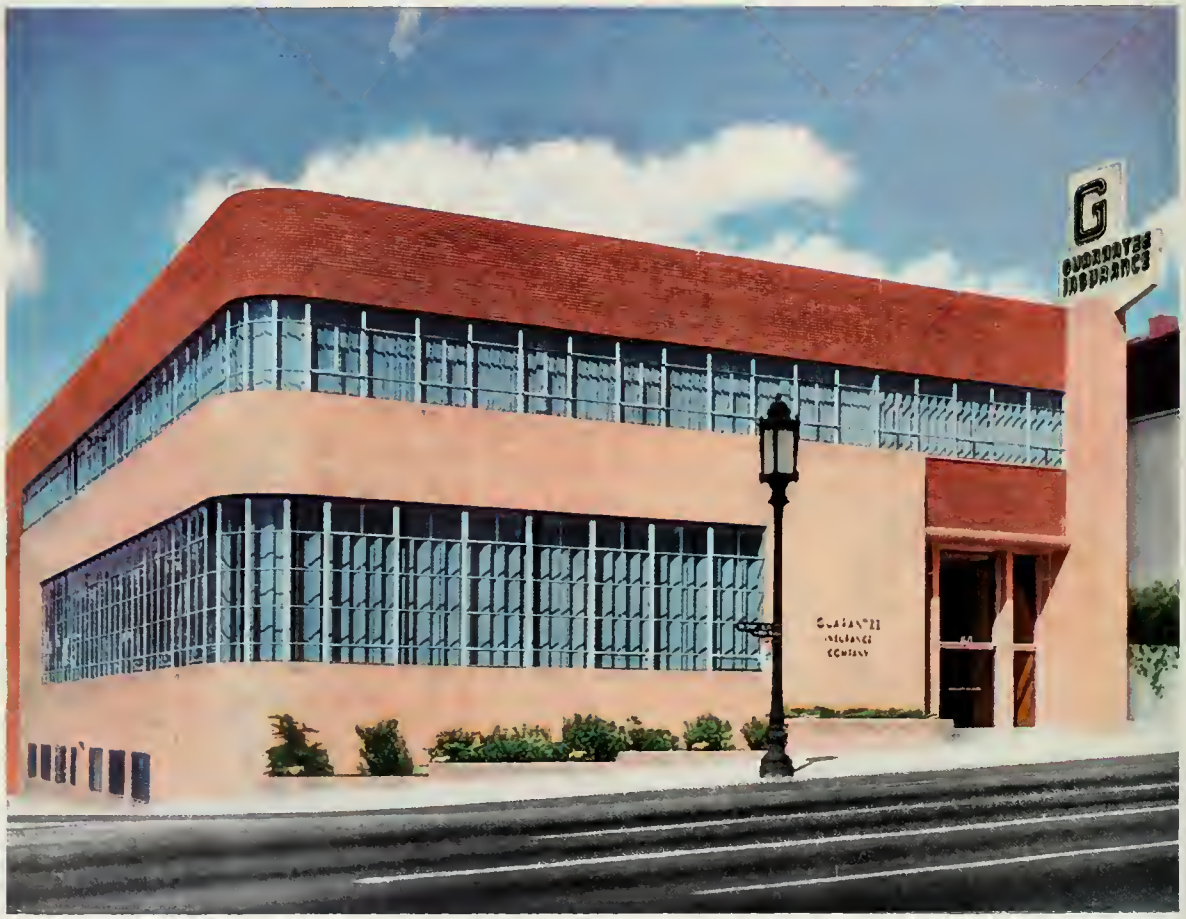
"STONESTOWN" — Californi

RECENT WORK OF MacDONALD, YOUNG & NELSON, INC.

JULY 1950

How to Achieve Interesting Texture Contrasts with Ceramic Veneer

Many architects are now achieving exterior "change-of-pace" through the use of Ceramic Veneer, offset with brick. The Guarantee Insurance Building, below, is one such example on Los Angeles' fabulous Wilshire Boulevard. Here you see versatile Ceramic Veneer contrasted with Face Brick, both supplied by Gladding, McBean. The effect is good, and the cost was low. Your clients will like Ceramic Veneer because it's easy to keep clean, non-fading and stays permanently beautiful. It comes in a wide range of colors and textures, and it's one of the smartest and most economical exterior materials you can use. It's ideal for interiors, too; and its use for remodeling will help eliminate extensive structural changes. Gladding, McBean & Co. Sales Engineers are available to architects from the planning stage through drafting and construction. A Ceramic Veneer handbook containing complete details and specifications will be forwarded at your request.



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• ARCHITECT AND ENGINEER

Vol. 182 No. 1

ARCHITECTS' REPORTS—Published Daily

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Planning

JOHN S. BOLLES, A.I.A.
Book Reviews

★

COVER PICTURE:

"STONESTOWN" is actually a city within a city at San Francisco, California.

Designed by architect Angus McSweeney, A.I.A., and built for Stoneson Brothers at a cost of over $25,000,000, the project covers a 26-acre site on Nineteenth Avenue, not far from the Pacific Ocean and Golden Gate Park.

The four ten-story and ten three-story reinforced concrete buildings comprise some 683 apartments. Other buildings include a complete new shopping center. (See story on Page 12.)

ARCHITECT & ENGINEER is indexed regularly by ENGINEERING INDEX, INC.

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. EDITORIAL NOTES .

HOUSING IS BIG BUSINESS

There are few people who realize, or even care much about, the tremendous business throughout the nation representing the building of homes, nor does the magnitude of the Federal government's participation in the housing industry have any particular significance.

It may be interesting to know, however, that the amount of FHA Insured Loans which have been granted now represent a total of some $20,000,000,000; also more than 13,000,000 American families have participated in this government program since its inception. More than 18,000 private financial institutions have loaned money to home purchasers, and of more than passing interest is the fact that approximately one half of the loans insured by FHA have already been completely paid off by the home owner.

FHA during the past year alone insured more than 170,000 rental units of which 58% were of the walk-up type; 27% were elevator structures, and 11% were row houses, with only 4% falling in the semi-detached type of units.

Under provisions of the Act governing GI Home Loans, which incidently has another seven years to go, some 1,940,000 GI home loans have been made. With recent revisions in the Act now becoming effective it is anticipated the number of GI home loans will increase considerably. Unremarried widows of veterans are now eligible for a GI home, farm, or business loan, the primary condition being that such widows must not have remarried following the veteran's death.

When it is remembered that the FHA phase of the home industry is but one part, the total activity is certainly Big Business.

* * *

CALIFORNIA COUNCIL OF ARCHITECTS will hold their Annual Convention in Yosemite Park, September 28-30, 1950.

* * *

A MAJOR PROBLEM!

The public works program in Federal and State government continues to be one of the major problems in budget making, and according to the Research and Policy Committee of the Committee for Economic Development, the "The consideration of public works programs in government budget making is not going to be solved this year or next, but will remain as an important element for some time to come".

Expenditures for public works increased from $1.6 billion in 1948 to $3.0 billion in 1950, and according to all present indications there is a strong tendency for the amounts to grow still further.

An alarming aspect of this situation is that the tremendous volume of construction threatens a repetition of the old pattern in which the number of public works projects rise in parallel to private construction, thus pushing boom prices higher and having in reality the effect of unstabilizing the total construction industry activity.

The current tendency for public works expenditures is in part the result of pressure from local groups for projects which should be held back in the national interest, although they may be considered quite meritorious from the strict local standpoint.

Many of these local pressure groups actually realize the need for sound budgetary policies in government, yet fail to exercise self restraint when considering the project's importance from the standpoint of the construction industry as a whole.

* * *

WHAT WILL YOU DO with the money when you start to "cash-in" those U. S. Savings Bonds that will soon mature? You can re-invest them in more BONDS and still make money for yourself.

BRITISH BUILDERS MARVEL AT THE AMERICAN CONSTRUCTION EFFICIENCY

A seventeen-man British Building Team which visited the United States last Summer to observe America's construction industry in action, report they are amazed at the initiative, efficiency, economy and productivity of American builders.

The official report of the visitors contrasts the freedom of the American builder with that of the British builder who is fettered with "onerous restrictions on private enterprise house building" through government controls.

The report is the result of eight months of analyzing the Team's findings and comprises an eighty-page document which is highlighted by the statement:

"American builders, freed from all controls, can provide houses for a large proportion of the population at prices commensurate with their average family incomes."

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New Fifth Avenue Branch—The National City Bank of New York — *Walker and Poor, Architects*

There is a feeling of security and stability which Marble is able to impart to a structure more readily than any other building material. This is due, not only to the association Marble has had with fine building over the ages, but as much to the inherent qualities of the material which no amount of clever manufacturing has ever been able to reproduce.

Add to this, the fact that Marble is not expensive, when initial cost is properly measured against the life-time of service it will render. And Marble is so simple to clean and economical to maintain that this low-cost factor becomes a means of positive savings year after year.

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NEWS AND COMMENT ON ART

SAN FRANCISCO MUSEUM OF ART

The San Francisco Museum of Art in the War Memorial Building, Civic Center, has announced the following Exhibitions and Events for the month of July:

EXHIBITIONS. Handwrought Silver; A New Direction in Intaglio; Contemporary Color in Lithography; Contemporary Irish Painters; House in Mexico—Ashen and Allen; New Works by June Wayne, Adolfo Halty, Felipe Orlando, and Jean Varda; Architecture, variation within a concept, by Fred and Lois Langhorst and Olaf Dahlstrand; Painters and Sculptors of San Francisco; Paintings by Torres-Garcia; Monotypes and Woodcuts by Antonio Frasconi; Form and Design in the Bay Region; Drawings and Prints by Bay Region Artists; Twelve Bay Region Photographers; and Permanent and Loan Collections.

CHILDREN'S SATURDAY ART Classes will recess during the months of July and August, and will reopen the first Saturday in September.

KNOW YOUR WORLD FILM SERIES, a series of documentary and educational films, will be presented each Saturday and Sunday afternoon at 2:30 p.m.

CITY OF PARIS

The City of Paris, San Francisco, is exhibiting a group of Original Gouaches by Lin-Fon-Ming in the Rotunda Gallery during the month of July. The artist was discovered by Clare Booth Luce in 1941, who subsequently publicized the work of the Chinese artist to quite an extent.

Exhibited at the same time will be Decoupage Chinois by Lovina and includes chests, tables, cabinets, taborets and credenzas, showing uses of Chinese paper applied to furniture and coated with layers and layers of lacquer to insure durability.

The Pictures of the Month will consist of an exhibit of Colored Lithographs by Jerry Opper and Monotypes and Pens by Enid Foster.

ALBERT M. BENDER GRANTS-IN-AID ANNUAL AWARDS ARE ANNOUNCED

The Trustees of the Bender Memorial Trust have announced the awarding of four grants of $1200 each, two in the field of Literature and two in the Field of Art.

Winners in the Literature Classification were Vance Baurjaily, novelist and staff writer of the San Francisco Chronicle, and Willard N. Marsh, Bay Area poet. Both winners will use the Bender Grants to complete new works for publication.

For the first time in the history of the Bender Grants, the awards in the field of Art went to two California women, Josephine Booth of Orinda, and Virginia Green of San Francisco.

Miss Booth, a painter, dancer and cinematic photographer, has mapped out two novel projects which combine her three art forms. Her production will take her to the wastelands of Death Valley, where she will explore with her camera the ghost town of Rhyolite and relate the natural forms of the desert.

Virginia Green, who won her award for work in sculpture, studied at the California School of Fine Arts. She plans to do experimental work in various sculpture media.

MILLS COLLEGE ART GALLERY

The Mills College Art Gallery, Oakland, is presenting an exhibition of paintings and graphic works by Max Beckmann, who will serve as the guest artist for the Summer Session.

The Gallery will be open daily except Saturday, according to Sidney M. Kaplan, Director.

AVIATION MURAL

An aviation mural which covers the entire ceiling of the concourse in the new million-dollar air terminal building of the Kanawah County Airport, Charleston, West Virginia, has been recently completed by Robert L. Lepper, a professor at the Carnegie Institute of Technology.

Eighty feet long, the mural represents aerial travel and the science that goes into making it faster and safer each year.

Cyrus E. Silling, Architect, designed the new building and Charles J. Kuhn was the Civil Engineer.

CALIFORNIA SCHOOL OF FINE ARTS

Ernest K. Mundt, Director of the California School of Fine Arts, 800 Chestnut Street, San Francisco, has announced the following Exhibitions and Events for the month of July:

JEWELRY and CERAMICS Classes, which combine the highest elements of fine art and industrial techniques are being offered during the Summer Session. Franz Bergmann, internationally famed jewelry designer, will teach the jewelry classes on Tuesday and Thursday afternoons, while Whitney Atchley will teach the classes in Ceramics.

ART SHOW AWARDS. The Annual Student Exhibition, designed by Squire Knowles of the faculty and installed by instructors and students, shows Deborah Remington won the Robert Howe Fletcher Cup for outstanding merit; and Charles Ward won the I. N. Walter Sculpture Prize of $50.00 for excep-

tional work in that field. The exhibition offers a review of the curriculum to come with the start of the new school year on September 11.

Honor Scholarships for the coming year were awarded to Jeanne Kewell of Los Angeles, Kiyo Koizumi of Berkeley and Emiko Nakano of Richmond. Winner of the National Scholastic Scholarship was named as Frederic Fuchs of the Bronx, New York, and Wayne Russell of Redwood City, California, received the Latham Foundation Summer Scholarship.

M. H. deYOUNG MUSEUM

Walter Heil, director of the M. H. deYoung Memorial Museum in Golden Gate Park, San Francisco, has announced the following events for the month of July:

Permanent Exhibitions and Historical Collections. Educational facilities will include Lectures and Gallery Tours, study rooms, art classes and art reference library.

Special Feature of the month is the great art treasures of the Vienna museums, which are on loan from the Austrian Government, and comprise a group of 132 paintings and 170 examples of decorative arts, including tapestries, arms and armour, goldsmith's work. The exhibit will remain until October 1st.

Workshop for Adults. Landscape sketching in the Park will continue through the Summer on Wednesday and Saturday afternoons, classes conducted by Charles Lindstrom. The Children's Summer Classes will be held on Wednesday and Thursday mornings in charge of Miriam Lindstrom.

THE VIENNA TREASURES

GREAT HAPSBURG COLLECTION

M. H. DE YOUNG MEMORIAL MUSEUM

On July 8, the museum doors opened to admit the public to the only showing west of Chicago of the great art treasures of the Vienna museums, which will be shown here until October 1 on loan from the Austrian Government.

This incredible group of 132 paintings and more than 170 examples of decorative arts including tapestries, arms and armor, goldsmith's work, drew some 875,000 visitors to the National Gallery in Washington.

The collection, chiefly assembled by members of the Hapsburg family during their seven centuries' rule as emperors, kings and princes all over Europe, has been said to be the most important show to come to the United States and appraisals have been offered ranging from $40,000,000 to $80,000,000.

Included in the exhibition are 12 paintings by Titian, eight by Rubens, five court portraits by Velasquez. Other great names represented are Giorgione, Correggio, Vermeer, Veronese, Van Dyck, Hals and many others. The Benvenuto Cellini salt cellar, the only large piece of gold work known to be entirely of his making, is an ornate piece about ten by thirteen inches. Among the tapestries are some of the finest hangings woven in Brussels in the sixteenth century. Arms and armor range from the late fifteenth century through the late seventeenth, and include field armor for Maxmilian I. The cradle made for the King of Rome, son of Napoleon and Marie Louise, is of silver-gilt inlaid with mother-of-pearl with a small canopy at the head and a small gold imperial eagle at the foot.

During this exhibition the museum will be open from 10 o'clock until 5 o'clock every day.

SIR ANTHONY VAN DYCK, Flemish, 1599-1641
Portrait of a Young Knight in Gilded Armor

DE-GERMING THE AIR

TECHNICAL PROGRESS AND HEALTHIER INSIDE AIR

By DR. W. SCHWEISHEIMER

The enormous increase in the use of air-conditioning units is due to their excellent results in keeping the temperature of rooms (in second line their degree of humidity) in desired limits. Some of these modern apparatus have the ability of destroying or removing pathological germs (bacteria) from the air. There is hardly any need to show what that can mean in gains of health and hygienic security. It is interesting to see in which form several technical firms have approached the problem. Its solution is still in the earlier stages of general application.

Control of Air-Borne Organisms

Mankind lives surrounded by myriads of invisible organisms, bacteria. The average diameter of the spherical shaped bacteria (cocci) is perhaps 1 micron, approximately 0.00004 in. It is not easy to remove these minute particles from the air with which they are being inhaled. It has been the experience of the American Air Filter Company, Louisville, Kentucky, according to a study by James W. May, Technical Director, that filters which are most effective in the removal of dust from the air are also most effective in the removal of bacteria. On this basis the electrostatic precipitators head the list. The Electro-Matic precipitator is a self-cleaning type of electronic filter, it is used as air filter for bacteria.

One school of bacteriologists feels that bacteria utilize dust particles as their means of locomotion. Consequently an air filter which removes dust should also be effective in removing bacteria. Tests made on electrostatic precipitators have indicated in many instances an efficiency of removal as regards bacteria in the order of 98 per cent and 99 per cent. Precipitators of this type give a high efficiency even on dust particles in the sub-micron sizes. Tobacco smoke, for example, is effectively removed; it has a particle size ranging from 0.10 to 0.25 microns.

Many types of filters and most types of electronic precipitators utilize a Viscosine for holding the precipitiated dust particles to the filter elements. This adhesive material must meet rigid specifications and one of the standards is that it must be an inhibitor of bacteria propagation. Otherwise if the adhesive would increase the growth of bacteria, filters could conceivably add rather than remove bacteria from the air. In most methods of de-germing air is the absence of dust particles from the air being treated considered as virtually essential, because the presence of these dust particles contributes to the ineffectiveness of the sterilizing agent. It is difficult to conceive of air sanitation not also involving the removal of dust or any other contaminants which might harbor bacteria and which would be harmful to overall cleanliness and good housekeeping.

Electrostatic Precipitation of Germs

The Trion Electric Air Filter, technically known as an electrostatic precipitator, is a modern device used for the cleaning of air in residential, commercial or industrial establishments. All particles, even of sub-microscopic size, are electrically charged as they pass through the high voltage ionizing screens. These particles are then attracted and adhere to the collecting plates as a piece of metal is attracted by a magnet. Periodically depending on the particles content of the air, the dirt is washed from the plates by the integrally constructed water wash system and is flushed into the sewer. Pure, clean air remains after the proceedings.

E. W. Meyers, Jr., President of Trion, Inc., of McKees Rocks, Pa., states that the Trion Electric Air Filter is guaranteed to remove more than 90 per cent of particulate matter from air streams when it is installed in accordance with specifications and not in excess of normal rating. Three distinct functional units, all housed in a single heavy-gage steel cabinet, comprise the complete filter: 1) The Ionizing-Collecting Cell, consisting of fine tungsten wires which are suspended in

(See Page 38)

VIBRATION
FOR QUALITY CONCRETE

By J. E. JELLICK
Manager, Portland Cement Information Bureau

When portland cement concrete was first introduced into the United States, stiff mixtures placed in thin layers, each thoroughly compacted with heavy tampers, were used almost exclusively. Dams, heavy lock walls and other mass concrete structures built in this manner show little deterioration or faults of construction, although they have been in service 30 to 40 years.

With the advent of reinforced concrete and the resulting use of thinner sections, more plastic mixes became necessary. Through lack of knowledge of the fundamentals of concrete-making at this time, overly-wet mixes which produced segregation of the materials and weaker, less durable concrete were often used.

When the part played by each ingredient in concrete and the importance of providing uniformity in the hardened concrete to avoid defective sections were better appreciated, a demand for an economical method of using stiffer mixes of lower water content was created. High-frequency vibration meets this demand.

As a means of more readily consolidating fresh concrete, vibration has many advantages. The modern high-frequency vibrators make it possible to economically place mixtures which are impractical to place by hand under many conditions. As an example, concrete of a stiff consistency—1½-in. slump—can be placed economically in forms containing closely spaced reinforcement. With hand

COUNTERFORT WALLS on the Los Angeles River Flood Control Channel . . . Note depth to which vibrators reach.

Photo by Viber Co.

puddling, a much wetter consistency would have been necessary, probably 5 or 6-in. slump.

It is a well established principle of concrete-making that for given materials and conditions of curing the quality of the hardened concrete is determined by the amount of water used for its mixing. The less water used, the better the quality of the concrete, providing it can be compacted properly. Smaller amounts of mixing water require either richer or stiffer mixtures. With vibration the stiffer mixtures can be used. Concrete of better quality can, therefore, be made with a given amount of cement, because less mixing water can be used. For a given quality of concrete, the stiffer mixtures are more economical. Vibration, then, permits improvements in the quality of concrete or in economy.

BRIDGE CROSSING ARROYO SECO
Pasadena, California

Benefits of Placing Portland Cement Concrete by Vibration

If a concrete mixture is of such workability that it can be readily placed by hand puddling, there is no advantage of vibrating it. Such mixtures will usually segregate when vibrated. Only by using the stiffer, harsher mixtures are the full benefits of vibration realized. Some of the advantages of reducing water content are:

Increased compressive and flexural strengths.
Increased watertightness.
Lower absorption.
Increased resistance to weathering.
Better bond between successive layers.
Better bond between concrete and reinforcement.
Less volume change, especially from plastic to hardened stages.

There is less tendency for segregation and for water to collect on the top surface when stiffer mixtures are used.

Earlier removal of forms and earlier finishing of the surfaces are sometimes possible and, with proper handling of the vibration, patching is reduced to a minimum. More rapid placing is often possible and the concrete can be vibrated into difficult locations where it is impossible to spade and rod by hand.

Equipment

Most of the high-frequency vibrators now available give at least 3,600 impulses per minute and some of them produce frequencies of 2 or more times this number of impulses. They may be electric-driven or may be operated from a gasoline engine or air compressor. The vibrations are caused by eccentric weights attached to the shaft of the motor or to the rotor of a vibrating element. Electric magnet pulsating equipment is also available.

Vibrators are of three general types: (1) internal, (2) form, and (3) surface.

Consistency

On practically all construction work, vibration permits the use of stiffer consistencies than can be placed by hand. How much the slump can be reduced will depend on such factors as the type of work and the effectiveness of the vibrator.

In making a group of test wall sections it was found that the slump could be reduced from 6 in., as required for hand placing, to 2 in. by using an internal vibrator.

With efficient vibrators, the consistencies represented by the slumps in the following table can be used so far as economical placing and complete compaction are concerned.

Pavements, heavy sections, such as gravity dams, precast pipe and other precast units	1 in. or less
Bridge piers and decks, retaining walls, large columns	1 in. to 2 in.
General building construction	2 in. to 3 in.
Thin reinforced walls	3 in. to 4 in.

Effect on Water-Cement Ratio, Strength and Economy

The lower slump concrete that can be used with vibration may be secured either by reducing the amount of mixing water, thereby improving qual-

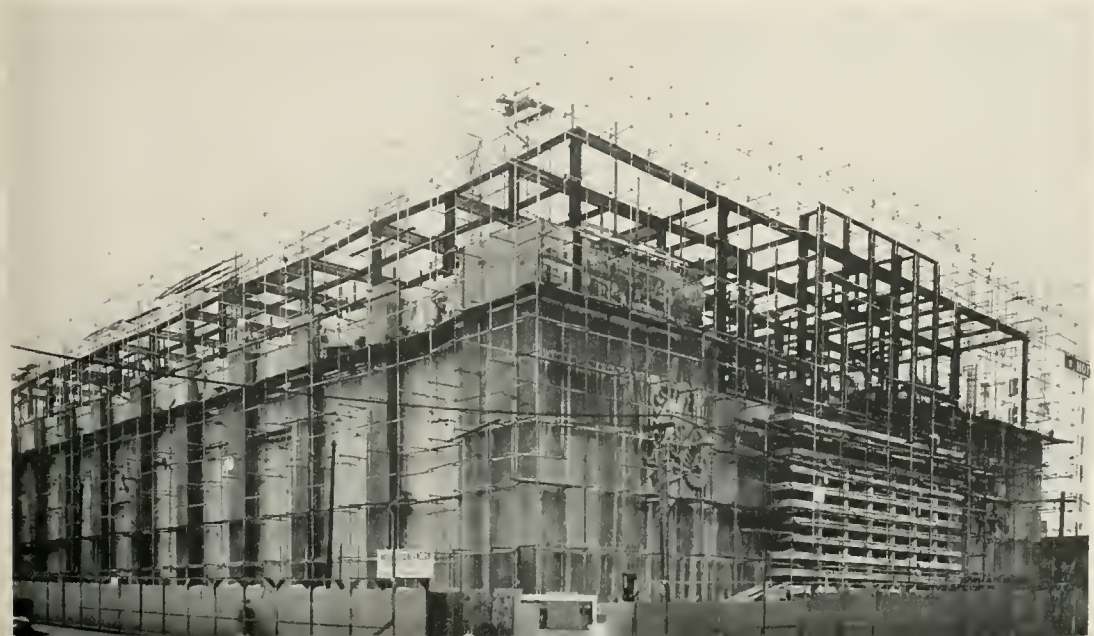
PACIFIC GAS & ELECTRIC POWER STATION

San Francisco, California

Wm. Merchant, Architect

Several unique engineering features as well as a strictly ultra-modern building are combined to give the Pacific Gas & Electric Company its new $4,800,000 power station in downtown San Francisco.

Usual construction procedure was reversed when the large precast travertine blocks, 5 ft. by 7½ ft. square, were used as the outside forms for the concrete walls, rather than being installed on the face of the building after the walls were completed.



Modern Architectural and Structural Developments Are Furthered by Modern Construction Methods

Accepting the challenge of modern architecture and its structural requirements, the firm of MacDonald, Young & Nelson, Incorporated, general contractors of San Francisco, have met the problems without hesitation and have envisioned and applied the most modern building methods toward the economical execution of their work.

Only by the application of these more efficient operations and the use of new techniques to speed construction time and improve workmanship, can the builders of today control and stabilize costs. The approach is absolutely necessary if we are to counteract rising material and labor costs and at the same time preserve the confidence of those individual owners and companies who are risking their capital and exhibiting willingness to invest in the present and future potentialities of our west.

This searching for new methods and improvements of construction procedures is the undeniable obligation of today's builders if they are to make any contribution toward the expansion of our industry and toward the comfort and living of our people. It is necessary that those who are willing to risk and develop must have the complete cooperation of the builder to provide an end product that is economically stable, and one that contributes to the benefit rather than the inflation of our economy.

The combined and sincere efforts of our architects, engineers and contractors in furthering modern architecture and modern building methods are reflected in some of the illustrated projects completed by MacDonld, Young & Nelson, Inc., general contractors, in the last few years.

The company was organized in 1945 upon the liquidation and dissolution of MacDonald & Kahn, Inc., general contractors in San Francisco for almost 40 years and one of the original Six Companies of Boulder Dam fame.

Graeme K. MacDonald, Dallas (Pete) Young, and

OAKLAND BRANCH

THE SAN FRANCISCO BANK

This remodel was completed and ready for occupancy within sixty doys.

Moulin

Photo

C. Edward Nelson were all with MacDonald & Kahn, Inc. for many years and upon its liquidation, decided to pool their experience (which amounts cumulatively to over 60 years of construction experience) and continue in the construction field in the same lines as its predecessor company.

Graeme MacDonald graduated from Stanford University in engineering in 1933 and entered the firm of MacDonald & Kahn, Inc. at that time. He was associated with the firm as engineer, director and stockholder until its liquidation in 1945.

Dallas Young, better known as "Pete" in Western construction circles, was associated with MacDonald & Kahn, Inc. for 23 years, and in 33 years of direct contact with all types of construction work has personally been responsible for the supervision and prosecution of over $90,000,000 of building and heavy construction.

(See Page 21)

Thomsen & Wilson, Architects
TELEPHONE BUILDING
Watsonville, California

WAREHOUSE AND OFFICES constructed for Lucky Stores, Inc., San Leandro, Calif.

B. L. Nishkian, Engineer
J. Lloyd Conrich, Architect

Illustrated at the left is the new

TELEPHONE BUILDING
Burlingame, California

Thomsen & Wilson, Architects

Illustrated below is the new office building for the

INSURANCE COMPANY OF NORTH AMERICA
San Jose, California

Wurster, Bernardi & Emmons, Architects

ILLUSTRATIONS ON OPPOSITE PAGE

NEW J. C. PENNEY STORE (top), Santa Monica, California
Milton Anderson, Architect — Victor Barnaba, Photo

NEW J. C. PENNEY STORE (bottom), San Jose, California
Albert F. Roller, Architect — Maulin Studios, Photo

(From Page 19)

C. Edward Nelson, a civil engineer graduate in 1934 from Polytechnic College in Oakland, came from the engineering department of the Richfield Oil Company to work for MacDonald & Kahn, Inc. in 1936, and was head of their Engineering and Estimating Department when the firm started liquidation in 1945. He then became one of the organizers of MacDonald Young & Nelson, Inc.

The experience individually gained by these three men in their many years association with

(See Page 27)

J. W. McALISTER BUILDING

Burlingame, California

Sharps & Brown, Architects

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Oakland, California

An important part of the new shoreline highway serving Alameda County, Oakland and the San Francisco-Oakland Bay Bridge is the Fruitvole Overpass, constructed under joint venture with J. H. Pomeroy & Company, Inc., os sponsors; and MacDonald Young & Nelson, Inc.

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CLYDE C. KENNEDY, Consulting Engineer

NORTH POINT - SAN FRANCISCO

SLUDGE TREATMENT PLANT

Rising within San Francisco's industrial district is the new $5,000,000 North Point Sludge Treatment Plant where great digestion tanks and driers will reduce the city's sewage to powder.

This project, sponsored by MacDonald, Young & Nelson, Inc., in a joint venture with Morrison-Knudsen Company, Inc., is one of the multi-million dollar installations to safeguard the health of the citizens of the city of San Francisco.

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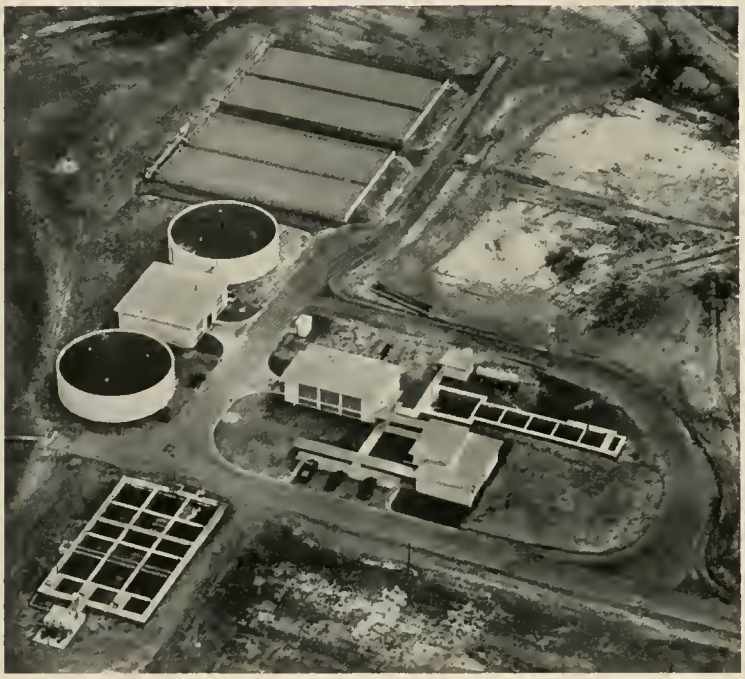


CONTRA

COSTA

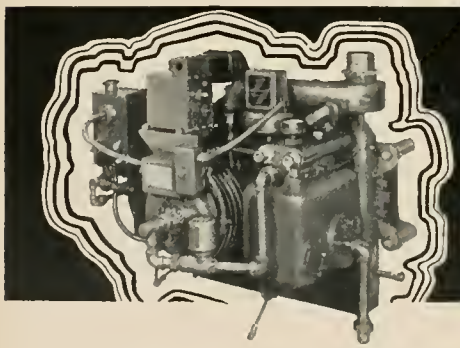
SEWAGE

TREATMENT

PLANT

Clyde C. Kennedy,
Engineer

Moulin Photo



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(From Page 21)

MacDonald & Kahn, Inc. and the myriad of construction problems that were confronted and conquered, both in field and office, was joined and cemented by the formation of the firm of MacDonald, Young & Nelson, Inc. When this combination entered general contracting it was not as a new firm but rather as a merger of many years of experience, which resulted in practically a fully operating company from the date of its inception.

This pictorial presentation of some of the buildings and projects completed in the last four years represents a good cross-section of the type and magnitude of work that the firm has completed. Continual search for more practical and economical approaches to the prosecution of their work is strongly reflected by the physical results shown in the quantity and quality of buildings produced and also in the satisfaction of their many clients.

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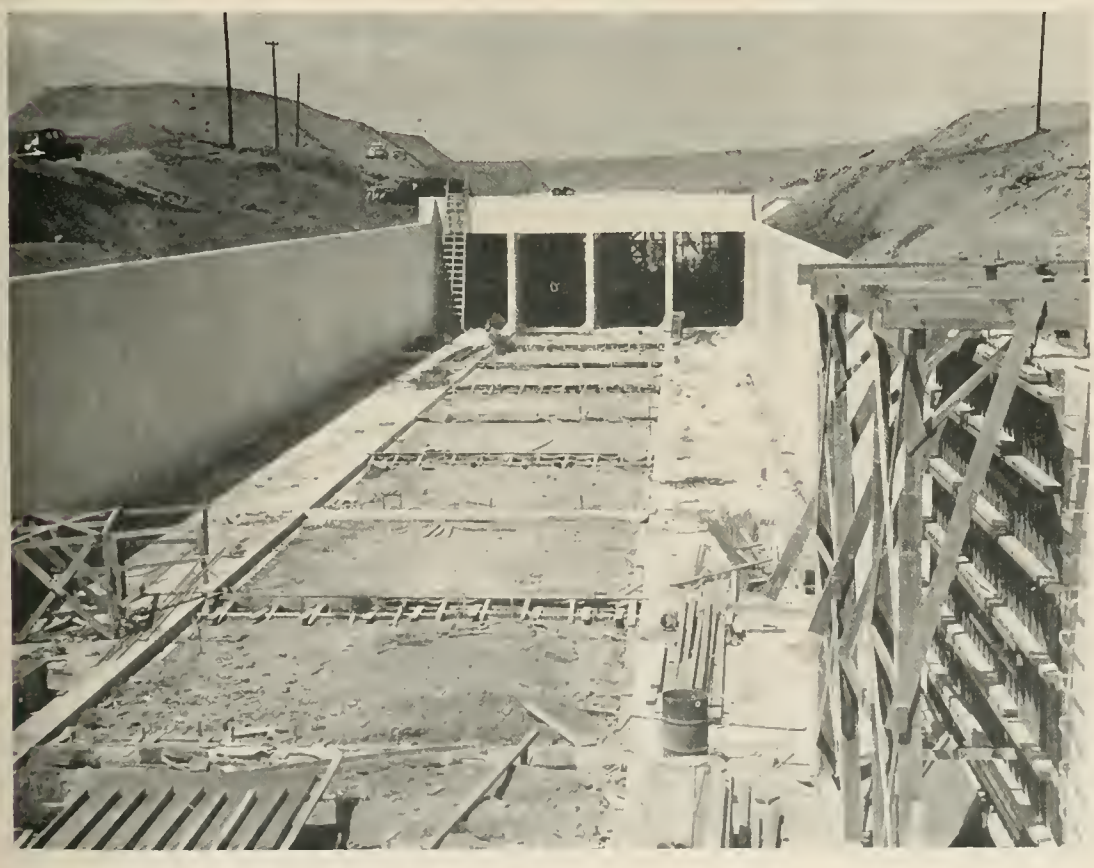

A. I. A. ACTIVITIES

American Institute of Architects

Arizona Chapter:
Edward L. Varney, President; Ralph B. Haver, Secretary, 35 W. Oregon Street, Phoenix, Arizona.

Central Valley of California:
William Koblik, President; Gordon Stafford, Vice-President; John W. Bomberger, Secretary; Albert B. Thomas, Treasurer. Secretary's Offices P. O. Box 1943, Modesto.

Central Coast Counties Chapter:
Birge M. Clark, President; Lisle Fred Richards, Secretary-Treasurer; Thomas E. Elston, Jr., Chester Root and Henry Morgan Stedman, Directors. Office, 411 Lafayette Street, San Jose.

Colorado Chapter:
Henry J. Von Wyl, President; Charles H. Overholt, Secretary, 2509 W. 36th Avenue, Denver, Colorado.

East Bay Chapter:
James H. Anderson, President; Loy Chamberlain, Vice-President; William Corlett, Secretary; Chester Treichel, Treasurer. Office c/o Sec., Bank of America Bldg., Oakland.

Montana Chapter:
Orr Pickering, President; H. C. Cheever, Secretary, Montana State College, Bozeman, Montana.

Nevada State Board of Architects:
L. A. Ferris, President, Reno; Walter Zick, Secretary, Las Vegas; Directors, Aloysius MacDonald, Las Vegas; Russell Mills and Edward Oarsons, Reno. Office, P. O. Box 2107, Las Vegas, Nevada.

Northern California Chapter:
Ralph N. Pollack, President; Francis J. McCarthy, Vice-President; William B. McCormick, Secretary; George A. Downs, Treasurer. Offices 369 Pine St. San Francisco.

Oregon Chapter:
Irving G. Smith, President; Holman J. Barnes, Vice-President; Albert W. Hilgers, Secretary; and Millard H. Schmeer, Jr., Treasurer. Office, 909 Spaulding Building, Portland 4, Oregon.

Pasadena Chapter (California):
Burton Romberger, President; Georgius Y. Cannon, Vice-President; Donald E. Neptune, Treasurer; William H. Taylor, Secretary. Directors: Boyd E. Georgi, Roland E. Coate, Edwin Westberg and Robert H. Ainsworth. Office 1041 E. Green St., Pasadena.

San Diego Chapter:
George C. Hatch, President; Jack R. Lewis, Vice-President; Louis A. Dean, Secretary; Donald Campbell, Treasurer; Directors, C. J. Paderewski, Walter C. See, Louis H. Bodmer, and Wm. Templeton Johnson. Offices Suite 206 Fifth Avenue Building.

San Joaquin Chapter: (California)
Fred L. Swartz, President, Fresno; Lloyd J. Fletcher, Vice President, Visalia; Walter Wagner, Secretary, Fresno; Robert W. Stevens, Treasurer, Fresno. Directors: Alastair Simpson, William D. Coats, William F. Baxter. Maurice J. Metz, Delegate California Council of Architects. Office, Sec. Fulton-Fresno Bldg.

Santa Barbara Chapter (California):
Henry W. Howell, President; Wallace Wm. Arendt, Secretary, 236 La Arcada Bldg., Santa Barbara, California.

CALIFORNIA COUNCIL OF ARCHITECTS
Frank V. Mayo, President; Frederick A. Chase, Executive Secretary. Office, 3757 Wilshire Blvd., Los Angeles 5.

Southern California Chapter:
John Rex, President; John J. Landon, Vice-president; Burnett C. Turner, Secretary; Jack C. Lipman, Treasurer. Chapter Headquarters, 3757 Wilshire Blvd., Los Angeles 5.

Spokane Chapter:
Richard H. Eddy, President; Harry C. Weller, Vice-President 1; Kenneth D. Storment, Vice-President 2; Victor L. Wulff, Secretary, and Carl Johnson, Treasurer. Office 1023 W. Riverside Ave., Spokane, Washington.

Utah Chapter:
Howell Q. Cannon, President; William J. Monroe, Jr., Secretary, 3707 South 32nd West Street, Salt Lake City 7, Utah.

Washington State Chapter:
Waldo B. Christenson, President; Perry B. Johanson, 1st Vice-President; Charles T. Pearson, 2nd Vice-President; John M. Morse, Treasurer; and Bliss Moore, Jr., Secretary. Offices 714 American Building, Seattle 4, Washington.

Tacoma Society:
E. N. Dugan, President; P. G. Ball, Vice-President; Lyle Swedberg, Secretary-Treasurer.

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SOUTHERN CALIFORNIA CHAPTER

The July meeting was devoted to a discussion of the subject "The Slum Clearance and Redevelopment Program in Los Angeles," with Percival Hart, Director of the Agency, explaining the program.

It was pointed out that since the Program was designed to provide private enterprise with an opportunity to participate in rebuilding the City of Los Angeles, it was of great interest to all architects, and citizens of the community.

* * *

NEW MEMBERS: William M. Bray, Edward H. Fickett, John Hinchliff, Herman O. Ruhnau, Clinton C. Ternstrom, and Eldon C. Davis are new Corporate Members. New Institute Members include Herbert Frederick Fiege, Clinton Charles Ternstrom, Frank Stuart Young. Junior Associate members include Frederick H. Furer.

PLANS for a good member representation at the annual California Council of Architects Convention in Yosemite on September 28-30, are under way.

ARCHITECT IS HONORED

Ernest J. Kump, San Francisco architect, has been elected to a life membership as a Fellow of the Royal Society of Arts of England. The Society, founded in 1754, has as its aims the advancement,

development and application of the arts as well as their use in the fields of manufacture and commerce.

Kump's work in architecture and planning has received a great deal of attention throughout the nation, as well as in Europe.

NORTHERN CALIFORNIA CHAPTER

The July meeting inaugurated a new approach to Chapter activities. Under the leadership of John Lyon Reid, A.I.A., a series of programs have been planned which will cover the subjects of Administration, Relations, and Technical.

Each major classification has been broken into numerous subjects which cover the field of architecture and construction.

FORMER PRESIDENTIAL HOME AGAIN A. I. A. WASHINGTON HEADQUARTERS

With its interior redecorated and refurnished and its new garden recently completed, the historic Octagon House at 18th Street and New York Avenue, N. W., Washington, D. C., offical national headquarters of the American Institute of Architects, has been opened to the general public.

Once the home of President and Mrs. Madison, after the burning of the White House during the War of 1812, the 150-year old Octagon House has been the scene of many historic events including the ratifying of the treaty of Ghent in 1814 by President Madison.

Since 1900 the house has been the A.I.A. headquarters, and according to Edmund R. Purves, Executive Director of the A.I.A., it is planned to use the Octagon House as a part of the A.I.A. headquarters for the reception of distinguished guests, members and their friends, and as a semi-museum with exhibitions of outstanding interest shown. The actual administration offices of the A.I.A. have been moved into an adjacent building which faces the garden of the Octagon House, the garden having been landscaped and designated as a memorial to architects who were killed in the two world wars.

ARCHITECTURE IN THE ATOMIC AGE

Theme of the annual convention of the California Council of Architects, scheduled for the Ahwahnee Hotel in Yosemite Park, September 28-30, has been developed around "Architecture in The Atomic Age," according to Architect William H. Rowe, convention Chairman.

Community planning to accomodate the dispersion of industries and concentration of people to lessen the damage by a possible enemy attack in the Atomic age, will be one of the highlighted subjects of the convention.

Ralph Walker, President of the A.I.A., is scheduled to report on Architecture throughout the world, and Frank Mayo, President of the California Council of Architects will preside at the meetings.

NAMED ARCHITECT FOR NEW FLAGSTAFF COLLEGE PROJECT

Lester Byron, Phoenix (Arizona) architect, has been appointed architect on a project at the Flagstaff College which will convert the old science building at the college into a modern men's dormitory.

NEW ARCHITECTURAL COURSES ARE OFFERED AT STANFORD UNIVERSITY

Architecture will be offered as a major course at Stanford University when the fall quarter opens in September, according to a recent announcement of the University.

Courses leading to bachelor and master degrees will give professional training in architecture to students planning a career in the field, and will be offered by department of Art and Architecture.

The undergraduate program during the first two years will include basic courses in art, architecture, mathematics and engineering in addition to regular lower division requirements in the humanities, natural and social sciences.

The third and fourth years will be devoted to a

(See Page 35)

WITH THE ENGINEERS

Structural Engineers Association of Northern California
Arthur W. Anderson, President; John E. Rinne, Vice President; Franklin P. Ulrich, Treasurer; Geo. E. Solnar, Jr., Secretary. Howard C. Schirmer, Walter L. Dickey, Geo. A. Sedgwick, Harold O. Sjaberg and Jesse Rosenwald, directors.

Structural Engineers Association of Central California
William H. Petersen, President; Walter S. Wassum, Vice President; O. T. Illerich, Sec. Treas.; Ernest D. Francis, M. A. Ewing, and Arthur A. Sauer, directors. Office O. T. Illerich, c/o Div. of Arch., Sacramento.

American Society of C. E.
San Francisco Section
A. W. Earl, President; G. B. Woodruff, Vice President; C. T. Wiskocil, Vice President; R. D. Dewell, Secretary-Treasurer. Secretary's Office, 604 Mission Street, San Francisco.

Structural Engineers Association of Southern California
E. C. Hillman, Jr., President; Donald F. Shugart, Vice President; Robert J. Short, Secretary-Treasurer. Directors: Charles M. Herd, John Minasian, Harry Bolin, John Case and Lewis Osborne. Office, 202 Architects Bldg., Los Angeles 13.

Puget Sound Engineering Council (Washington)
R. E. Kister, A. I. E. E., Chairman; E. R. McMillan, A. S. C. E., Vice Chairman; L. B. Cooper, A. S. M. E., Secretary; A. E. Nickerson, I. E. S., Treasurer. Offices, L. B. Cooper, c/o University of Washington, Seattle 5, Washington.

STRUCTURAL ENGINEERS ASSOCIATION OF SOUTHERN CALIFORNIA

The Structural Engineers Association of Southern California held its regular monthly meeting on Wednesday, June 7 at the Alexandria Hotel. President Ernie Hillman presided over the business meeting and Past President Harry Bolin disclosed that Sacramento contemplated a nominal yearly license fee for engineers authorized to use the title "Structural Engineer" in addition to the fee required as "Civil Engineer".

The guest speaker for the evening was Charles D. Wailes, Jr., formerly with the Portland Cement Association and now president of the C. D. Wailes Corporation, who presented a very interesting talk on "Some Developments in the Field of Pre-cast Construction".

Mr. Wailes discussed three principal reasons for the current trend toward pre-cast and tilt-up construction—namely:

> Economy, Architectural and Engineering Advantages and the urge to "Try Something New."

Illustrating the widespread use of pre-cast construction, Wailes presented slides showing examples of construction methods and projects. A Single span bridge on existing abutments in Pennsylvania saved some 25% in cost over poured-in-place construction. The Navy Storage Project at Mechanicsburg, Pennsylvania was built almost entirely of pre-cast concrete sections with joints concreted in place, and saved considerable time and money over poured-in-place construction.

Toward the goal of good construction at low cost the use of higher strength concrete, up to about 8000 psi, and the welding of reinforcing steel, where several pre-cast panels join, affect appreciable savings in cost.

Forms may be reused numerous times and on one project, 4000 elements required only 100 moulds. The U. N. Housing project used concrete moulds 17 times. Thus one of the most expensive operations for using poured concrete forming is simplified and the cost is lowered. Vacuum lifting of the pre-cast panels is perhaps the most widely used and creates practically no erection stresses.

Wailes discussed some disadvantages in erection of pre-cast members. Erection procedure and joining members offer the principal difficulties, but for the projects where there is extensive repetition and mass production pre-cast concrete panels do offer economy.

As an added feature, the guest speaker presented a color movie showing the methods of pre-casting, manufacture and erecture of MO-SAA, the facing material used on the Prudential Building, Los Angeles.

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DEAN SAVILLE SPEAKS AT WASHINGTON UNIVERSITY

Dean Saville of New York University delivered the Presidential Address at the annual meeting of the American Society for Engineering Education, held recently at the University of Washington in Seattle.

Pointing out that engineering is concerned with the implications of economics and sociology upon the operation and control of engineering works and devices, as well as the practical application of the natural sciences to the use and convenience of man. He urged selection and breadth along with more fundamental science in engineering curriculla.

Dean Saville concluded by pointing out that "no professional group can have a greater variety of challenging problems to solve of great public as well as educational consequences".

AMERICAN SOCIETY OF CIVIL ENGINEERS

Gail A. Hathaway, special assistant to the chief of engineers, Department of the Army, Washington, D. C., has been nominated as 1951 President of the American Society of Civil Engineers.

A former Director and Vice-President, he has been a member of the Society since 1934.

Hathaway is an internationally known specialist in the field of water resource development.

WILL RECEIVE 1950 GOLD MEDAL OF ILLUMINATING ENGINEERING SOCIETY

William F. Little, Engineer in Charge, Photometric Department of the Electrical Testing Laboratories, Inc., New York, will receive the 1950 Gold Medal awarded annually by Illuminating Engineering Society. The award will be made at the Society's annual convention in Pasadena on August 21.

The award is the highest granted in the field of illumination and is given annually by the national Society for "meritorious achievement conspicuously furthering the profession, art or knowledge of illuminating engineering."

STRUCTURAL ENGINEERS ASSOCIATION OF NORTHERN CALIFORNIA

The regular July dinner meeting was omitted in view of the Annual Stag Outing held at the Diablo Country Club on July 22nd.

The day was devoted to games of baseball, tennis, golf, horse shoes and swimming, with competition well divided between engineers of the Bay Region.

* * *

The annual election of officers will be held prior to the State Convention in October in order that new officers as well as those completing their term can participate in state-wide engineer association activities.

* * *

Henry Powers has been appointed chairman of the Consulting Practice Committee, succeeding R. H. Cooley who is ill.

* * *

Gus Saph, has been appointed Chairman of a By-Laws Committee and will be assisted by John Blume, Sid Gorman, Adrian Martinez and Bob Kavinoky.

* * *

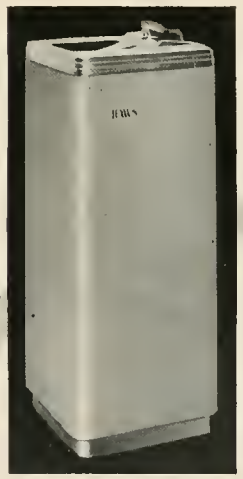
STATE STRUCTURAL ENGINEERS ASSOCIATION, Annual Meeting, October 12-14, at Hotel Del Coronado, Coronado.

AMERICAN SOCIETY FOR TESTING MATERIALS NAMES OFFICERS

The American Society for Testing Materials, at their annual meeting in Atlantic City the latter part of June, named the following officers for the ensuing year:

L. J. Markwardt, Assistant Director U. S. Forest Products Laboratory, Madison, Wisconsin, President; Truman S. Fuller, Engineer in Charge of Works Laboratory General Electric Company, Schenectady, N. Y., Vice-President; Board of Directors, B. A. Anderton, Edgewater, N. J.; Robert H.

(See Page 33)



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Treasurer, Fred A. Figone
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Edited by Don W. Lyon, LIBBEY-OWENS-FORD GLASS CO.

It is a pleasure to report the final figures on the May Table Top Meeting. As you all know, this meeting was a splendid success. The Table Top Chairman, Jim Ferguson, Johns-Manville Sales Corporation, and his committee—Bill Hauserman of the E. F. Hauserman Company, Jack Armstrong of David E. Kennedy Company, A. L. West Jr. of Aluminum Company of America, C. W. Edinger of Owens-Corning Fibreglas Inc., Louis D. Saylor of Vermont Marble Company, should be congratulated for a splendid job.

The reports on attendance showed that of those ticketed at the door, 202 architects and draftsmen attended, 51 engineers attended, and also 146 Producers' Council members and alternates attended. In addition to those ticketed, it was estimated that another 95 persons from other catagories attended and were not accounted for at the door.

The entire Council is to be congratulated for the splendid cooperation it gave the staff of the Table Top Committee, working up their exhibits and cooperating in all respects, to make this meeting a tremendous success for our Council.

MEETINGS SCHEDULED

The following is the schedule for the programs for the meetings during the balance of 1950: July 10—the Cambridge Tile Manufacturing Company will present an informational meeting; August 7—the Stran-Steel Division of the Kraftile Company will present a meeting; September 11—the U. S. Plywood Company will conduct a meeting; October 2—the E. F. Hauserman Company will present a meeting; November 6—E. L. Bruce will conduct an informational meeting; in December—the Christmas Jinx.

As you can see, we are booked up solid for the balance of 1950. Any member companies wishing to have an opportunity to conduct an informational meeting and present their products should contact the program chairman as soon as possible as the early part of 1951 is being scheduled at this time.

JUNE GOLF MEETING

We have received the information that the June 16 golf dinner meeting was a successful affair. The winners are as follows: Champion of the tournament (low gross) was Producers' Council member Norman Brown of the Bell and Gossett Company with an 84; the low net winner was Howard Walton, Producers' Council member of the Owens-Corning Fibreglas Company; the runner-up on low net was Ray Brown of Gladding McBean Company; winner of the Blind Bogey Tournament was Bill Armstrong of Celotex Corporation; Producers' Council guest winners were (low gross) Bill Knowles, architect, and (low net) Alex Wilson, architect . . . runner-up was Fred Confer, architect.

In addition to the tournament golfers, the course was submitted to a rigorous test of a quartet of dubs—winner of which was somewhere between 150 and 180.

It has been suggested that for next year's golf dinner meeting a special flight of dubs be organized so that all architect and Producers' Council members who feel that they would like to take a chance at playing a little golf can feel free to go out and hack up the greens without holding up any tournament players.

USE QUALITY PRODUCTS — MANUFACTURERS OF QUALITY BUILDING PRODUCTS — THE PRODUCERS' COUNCIL — CONSULT AN ARCHITECT

WITH THE ENGINEERS

(From Page 31)

Brown, Fitchburg, Mass.; D. K. Crampton, Waterbury, Conn.; Harry G. Miller, Milwaukee, Wis.; and J. R. Trimble, Birmingham, Ala.

In recognition for their eminence in technical work in engineering materials, the Society honored Phaon H. Bates, St. Petersburg, Fla.; Wilson C. Hanna of Colton, California; Dean Harvey of Pittsburgh, Pa.; Prevost Hubbard of New York City; Robert Job of Montreal, Canada, and Henry S. Rawdon of Washington, D. C., with Certificates of Honorary Membership.

Other Honors awarded included the Charles B. Dudley Medal to Professor B. J. Lazan of Syracuse University for a paper on the subject "Dynamic Creep and Creep-Rupture Properties of Temperature-Resistant Materials under Tensile Fatigue Loading"; the Richard L. Templin Award to Professors D. S. Clark and D. S. Wood, California Institute of Technology for their paper "The Time Delay for the Initiation of Plastic Deformation at Rapidly Applied Constant Stress", and the Sam Tour Award to O. B. Ellis, Middletown, Ohio, for his paper on the "Effect of Weather on the Initial Corrosion Rate of Sheet Zinc".

ENGINEERS DISCUSS HEAT TRANSFER AT U. C. L. A.

Approximately 400 engineers and scientists met on the U. C. L. A. Campus the latter part of June to attend the 1950 Heat Transfer and Fluid Mechanical Institute which was sponsored by five technical societies and five California universities.

Subjects discussed included problems of cooling of engines, particularly turbojet, ramjet, and rocket. The flow of fluids both compressible and non-compressible has become extremely important in the development of high speed planes and guided missiles.

Sponsoring agencies included the University of California, California Institute of Technology, Santa Clara University, Stanford University, University of Southern California, and the California sections of the American Institute of Chemical Engineers, American Society of Civil Engineers, American Society of Refrigerating Engineers, Institute of Aeronautical Sciences and the Applied Sciences, Heat Transfer and Hydraulics divisions of the American Society of Mechanical Engineers.

FAIR PAVILION

The Cloverdale Chamber of Commerce will start immediate work on the construction of a new Citrus Fair Pavilion Building in Cloverdale, at a cost of $120,000, according to Oleg N. Ivanitsky, architect of San Francisco.

The building wil be of one story concrete block and structural steel and frame construction and will contain 20,000 sq. ft.

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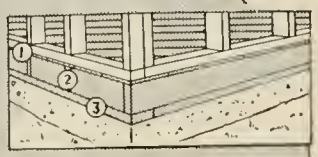

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HEADLINE NEWS & VIEWS

By E. H. W.

IN the sixteen years since the Electric Water Systems Council was organized, some five and one-half million water systems have been manufactured and sold.

* * *

NATIONAL Home Week will be observed throughout the nation September 10-17th inclusive.

* * *

"HIGHWAY CONTRACTORS, and other parts of the highway construction industry, during 1950 have the capacity to perform 50 per cent more work than was executed in 1949.":—H. E. Forman, Mg. Dr., AGC.

* * *

A GUIDEBOOK to building better neighborhoods, representing the combined experience of the nation's leading land developers, has been made available to the home builders of America, through the National Association of Home Builders.

* * *

THE California State Contractors' License renewal fee for the Fiscal Year 1950-51 will be $7 instead of the usual $5, which has been in effect many years. The increase is to pay, among other things, for additional state employees. As there are some 56,879 "registrations" in California, the additional $2 take represents quite a sum of money.

* * *

"ALL sorts of chances come to ability; again and again ability turns stumbling blocks into stepping stones — difficulties into triumph": — Chas. H. Schwab.

* * *

"Most important single service rendered by the architect is his originality combined with building and engineering know-how": — Flewelling & Moody, Architects.

* * *

TOTAL industrial development for northern California for April was $3,372,000, representing a 9 per cent increase over April of 1949.

* * *

TWO-THIRDS of the West's contract construction establishments, many of them world-wide in scope, are located in California — all of them are included in the circulation list of ARCHITECT & ENGINEER magazine.

* * *

THE world's second largest and tallest dam was officially dedicated on June 17th when high Interior Department officials dedicated the Shasta Dam on the Sacramento River, California.

A.I.A. ACTIVITIES

(From Page 29)

study of house, interior and landscape design, which will teach the relationship between structural materials and technology in relation to site, climate and human needs of the structure. Two additional years of study will be required for the master of arts degree.

The university's decision to set up an architectural course was based upon the fact that 1) The Bay Area is considered one of the richest architectural areas by architects throughout this country, 2) There is a great need for research in all phases of the building industry, 3) there is a great need for coordination between the profession of architecture and the educational institution, and 4) Stanford's fine school of Engineering will cooperate with the enlarged Art Department in providing training in structural principles.

ARCHITECT SELECTED FOR LARGE SHOPPING CENTER NEAR DETROIT

Victor Gruen, A.I.A., Architect of Los Angeles, has been selected to design and execute a $20,000,000 shopping center for the J. L. Hudson Company Department Store of Detroit, Michigan.

Extending over a 100 acre tract the project is to be constructed about 10 miles from downtown Detroit. Center of the development will house the J. L. Hudson's branch store, the remainder of the area, approximately 25 city blocks, will be apportioned between 100 stores, restaurants, recreation centers and a 3000 seat theatre, and parking facilities for 6000 automobiles.

A. I. A. JOINT EXHIBITION OPENS IN WASHINGTON

A joint exhibition of sculpture and landscape architecture was opened at the garden and gallery of The American Institute of Architects at the Octagon House in Washington, D. C., the early part of June.

The exhibit consists of twenty-five sculptures in wood, metal, terra cotta and stone by the Washington Sculpture Group and panels of plans and designs by the Washington Chapter of the American Society of Landscape Architects.

ARCHITECTS ENLARGE OFFICE

William and Sylvia Wilde, architects of Tucson, Arizona, have remodeled a building at 155 N. Main Street into a modern business suite and living quarters. Mrs. Wilde designed the entire interior, which includes glass screens for partitions, built-in cabinets, adjustable shelves for books, and an acoustical wall.

DR. TRIBUS TAKES UNIVERSITY LEAVE OF ABSENCE FOR YEAR

Dr. Myron Tribus of the department of engineering on the Los Angeles campus of the University of California will take a year's leave of absence from the University beginning July to serve on the research staff of the GE Corporation, where he will act as consultant on heat transfer problems relating to jet propulsion.

His recent work on an intermittant heating system for deicing of jets has received much attention in aviation circles.

RENO BUS DEPOT

Architect E. Keith Lockard of Reno (Nevada) announces the new Pacific Greyhound Lines bus depot in Reno will be under construction shortly.

Of one and two story reinforced concrete construction the new depot will cost $275,000 and will contain a waiting room-ticket office, dormitories, and a restaurant.

During the construction period the Bus Company is operating from temporary quarters adjacent to the new building site.

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BOOK REVIEWS
PAMPHLETS AND CATALOGUES

RENTAL HOUSING UNDER FHA-608, Monograph No. 2 New York, 1950. New York Chapter American Institute of Architects, 115 E. 40th St. Price $1.00.

A comprehensive report compiled by the Housing Committee of the New York Chapter, A.I.A., under chairmanship of Arthur C. Holden, covering a two year study of the work of the New York Housing Authority.

The report covers such subjects as Administration, Planning Standards, Site-Planning, Apartment Plans, Construction, Architectural Treatment and Summary and Recommendations.

Illustrated with photographs and drawings.

RECOMMENDED PRACTICE OF DAYLIGHTING. Illuminating Engineering Society, 52 Madison Ave., N. Y. Price $ .50. (Free to Architects & Engineers & Contractors.)

A 36-page booklet issued by the Society's technical committee covering the subjects of "daylighting." Discusses in detail prescribed means for the utilization of daylighting in building design.

An introductory section describes design principles for windows, shows illumination distribution in rooms; tables of solar position in various latitudes; and recommends window arrangement; control media, such as louvers, blinds ond glass blocks; treatment of reflecting surfaces of work areas, and sets up new practice terms and criteria for good lighting.

Well illustrated, charts, and scales.

POCKET ENCYCLOPEDIA OF ATOMIC ENERGY. By Frank Gaynor. Philosophical Library Publishers, 15 E. 40th St., N. Y. Price $7.50.

Offers a comprehensive collection of brief explanations and definitions of concepts and terms in the field of Nuclear Physics and Atomic Energy to the student, researcher, teacher, librarian, student and intelligent layman.

Individual entries for every element, also thumbnail biographical sketches of outstanding nuclear physicists and chemists, and over two thousand entries, charts, tables and illustrations.

PLANT LAYOUT AND MATERIALS HANDLING. By James M. Apple. The Ronald Press Company, 15 E. 26th St., N. Y. Price $5.00.

The author is associate professor of industrial engineering, School of Engineering, Michigan State College, and presents the book as a comprehensive yet concise single volume showing how to develop the most efficient layouts of equipment and of operating and service facilities, whether in manufacturing plants, warehouses or other industrial or business applications.

The plant layout is presented from an engineering standpoint in a practical manner.

It is the author's intention to make the book usable as a working reference, and as a textbook for colleges of engineering and schools of business.

The book contains a large number of photographs, drawings and charts.

NEW CATALOGUES AVAILABLE

Any of the catalogues or folders described here may be obtained by forwarding your request as indicated in the coupon below to the office of the ARCHITECT & ENGINEER. *Merely mark the items you want and clip or paste the coupon to your letterhead.*

180. ARCHITECTURAL PORCELAIN ENAMEL. A.I.A. 15-H-2, 4 pages illus., 5/50. An architectural porcelain enamel Data Bulletin for use by architects and builders has been published by the Architectural Division of the Porcelain Enamel Institute. The Data Bulletin describes exterior and interior applications for architectural porcelain enamel, the forms in which it is fabricated for architectural use, its shape limitation, available surface finishes and colors, its weatherability and other properties.

181. BINDERSEAL AND GRANULES. A new product data sheet available from the Industrial Products Division, The Flintkote Company, New York, describes a spray-applied plastic adhesive seal coat and colored mineral granule application for weatherproofing and restoring unsightly and leaky masonry walls. This coating system for exterior use, known as "Binder-

seal and Granules," consists of a spray coat of the specially compounded asphaltic material, followed by application of decorative granules which are embedded in the seal coat. Conventional spray equipment with compressor and drum head pump is used for the Binderseal application, and a small hopper with hose and nozzle has been designed to spray the granules. Series 1-C, 4 pages, 5/50.

182. BETTER LIGHT. A new booklet, offering a simplified explanation of how light-directing glass block provides the ultimate in daylighting of school classrooms, is available from the the Insulux Division of American Structural Products Company. "Better Light for Our Children," the 24-page booklet, is being distributed to acquaint architects, school administrators, builders, public groups and others with basic principles of light control through the use of light-directing glass block in combination with clear glass windows. 18 pages illus., 5/50.

183. INCENSE CEDAR INFORMATION. A new illustrated Facts Folder outlining the botanical history and classification, growth range, properties and uses of Incense Cedar has been published by the Western Pine association. Available without charge to dealers, architects, builders and schools, the four-page 8½x11" folder is the eighth in a series devoted to the three Western Pines and Associated Woods. All are identical in format and size and may be punched for use in teacher and student notebooks, salesmen's portfolios, architects' and builders' files, etc. P 5-8, 4 pages illus., 5/50.

184. COOLITE GLASS CATALOG. Mississippi Glass Company has released its new catalog on Heat Absorbing and Glare Reducing Coolite Glass. Typical applications in industrial buildings, schools and institutions are illustrated. Important facts covering the heat absorbing and glare reducing properties of the glass, confirmed in experiments conducted by an independent testing laboratory, are presented. In addition to heat and light transmission tables, the catalog also contains complete specification data. 12 pages illus., 3/50.

185. DIMMERS BULLETIN. Ward Leonard Electric Co. announces the development of their new Bulletin 76 Radiastat Dimmers for lighting control purposes in theatres, auditoriums, churches, colleges, schools, etc. Although designed primarily for lamp dimming, Radiastats are also suitable for industrial or laboratory use where a.c. voltage applied to the load must be adjustable. A.I.A. 31-F-17, 16 pages illus., 5/50.

186. ORNAMENTAL IRONWORK CATALOG. Cast iron lacework from old New Orleans' famous Vieux Corre designs. Complete illustrated architectural catalog (44 pages) shows photographic reproductions of over 200 different patterns of pilasters, balustrades, friezes and other details . . . all exact replicas of authentic original designs. Descriptions, weights, measurements and suggestions of good architectural treatments of ornamental cast ironwork further make this catalog a useful reference book for architects and builders. 44 pages illus., 6/50.

187. WEST COAST LUMBER. "West Coast Terms No. 4," a new publication of the West Coast Lumbermen's Association which contains information on estimated shipping weights and West Coast conditions of quotations and sale, is now available, according to H. V. Simpson, Association executive vice president. "West Coast Terms No. 4" is an up-to-date restoration of a WCLA lumber trade service publication that was widely used and valued in pre-war years for its detailed facts on West Coast lumber supply, sales, shipping and settlement procedures. 16 pages illus., 6/50.

188. SEALTUFT BOOKLET. A free booklet, "1001 Uses For Sealtuft," is ready for distribution by The Jason Corporation. Dozens of SEALTUFT applications are illustrated, making the booklet a valuable composium of ideas and suggestions for decorators, manufacturers, designers and homemakers and demonstrating the versatility of the product. The five SEALTUFT patterns, Diamond, Tyle, Channel, Scroll & Trellis, are illustrated on the front cover of the booklet. 4 pages illus., 6/50.

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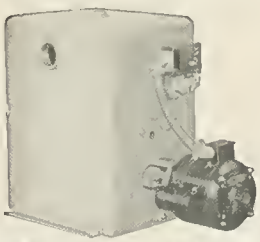

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DE-GERMING THE AIR

(From Page 8)

front of and between a series of parallel aluminum plates on which the foreign particles from the air are collected. 2) A Power Pack, with transformers and rectifier tubes for supplying high voltage direct current to the Ionizing-Collecting Cell. 3) A Water Wash Spray System, for automatically washing the dirt from the aluminum collecting plates. Designed primarily as a "packaged" unit, Trion is available in four standard sizes for handling air volumes up to 4000 cubic feet per minute.

Manufacturers of electronic air cleaners like to explain the average human being inhales every twenty-four hours more than 2,000 gallons of air. Its weight is about seven times greater than the food and water consumed in the same period. Each cubic foot of air in the average American city contains from 500,000 to 2,000,000 particles of dust, dirt and pollen.

Collection of Bacteria

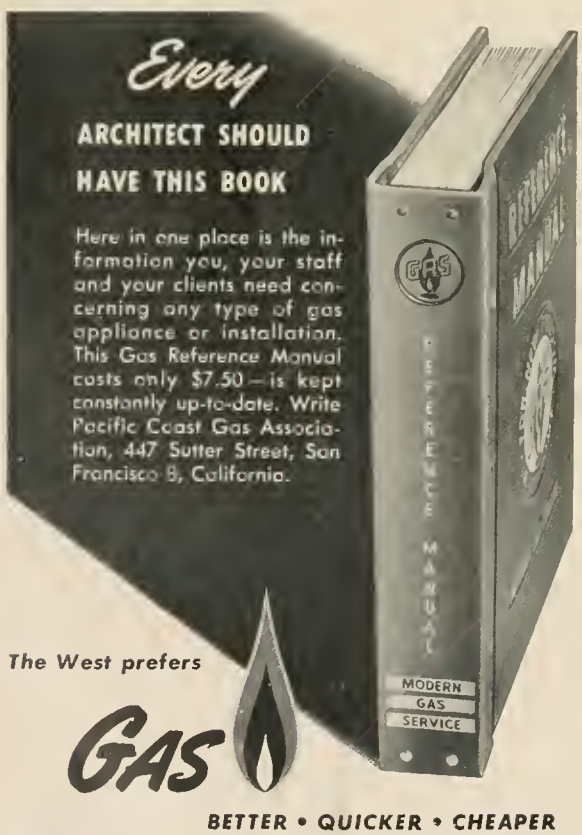
Another electrostatic precipitator equipment is produced by Raytheon Manufacturing Company, of Waltham, Mass. It is used in conjunction with ventilating and air-conditioning systems when clean air is desired. The Rayon Precipitator, according to a study by S. R. Ballou, will collect particles of dirt, dust, soot, smoke, etc., down to a size of at least 0.1 micron with an efficiency of 85% to 90% as determined by the National Bureau of Standards Discoloration Test. Mechanical filters usually do not exceed 15% to 20% under this test. This particle size range includes tobacco smoke and most dusts and pollens causing hay fever.

Some bacteria, Mr. Ballou points out, are undoubtedly collected. Whether they are actually killed in the process is controversial. The question would appear to be academic if they can be thus extracted from the air stream and suitably disposed of after being collected. Bacteria which ride on dust particles which can be collected will be collected with the dust particles.

The working principle of the precipitator is this. Dust laden air is drawn into the precipitator system. The power supply transforms 110 volts a.c. to 12,000 volts d.c. for ionization and 6,000 volts d.c. for precipitation. The ionizer places a positive charge on the dust laden air particles. Positively charged dust particles are carried from the ionizer to the collector by the air stream. The collector causes the positively charged particles to precipitate on to the negatively charged plates. The outgoing air is clean.

The ionizer consists of a grille of alternate fine wires and large tubes perpendicular to the air stream. The wires are positively charged with respect to the tubes and emanate a corona. Particles in the air stream pick up a positive charge in passing through this corona. Collector plates must periodically be cleaned of accumulated dirt. This is done by flushing with hot water from a hose. After the plates are dry, an adhesive oil is applied to the plates to assist in holding collected dirt.

Control of air contamination today plays a big part in industry. De-germing the air is not as important in industry as the removal of unpleasant or noxious fusts, fumes, mists, gases or vapors. In hospital rooms, in sick rooms, however, as well as in rooms where people gather, the problem of removing sickness-producing germs of the air is urgent. Transmission of many diseases could be avoided if the air which people inhale could be freed from infection-carrying bacteria. In certain industries bacteria-filters have been used for quite some time, particularly in the food industry and in breweries. As far back as 1928 bacteria filters were installed in a tomato ripening plant at Detroit. The technique has fundamentally been improved since that time, and the freeing of air of foreign organisms to avoid extensive spoilage is in widespread use in the food industry at the present time.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ESTIMATOR'S GUIDE

BUILDING AND CONSTRUCTION MATERIALS

PRICES GIVEN ARE FIGURING PRICES AND ARE MADE UP FROM AVERAGE QUOTATIONS FURNISHED BY MATERIAL HOUSES TO SAN FRANCISCO CONTRACTORS. 3% SALES TAX ON ALL MATERIALS BUT NOT LABOR

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

BONDS—Performance or Performance plus Labor and Material Bond(s), $10 per $1000 on contract price. Labor & Material Bond(s) only, $5.00 per $1000 on contract price.

BRICKWORK—

Common Brick—Per 1M laid—$100.00 up (according to class of work).

Face Brick—Per 1M laid—$200.00 and up (according to class of work).

Brick Steps—$3.00 and up.

Common Brick Veneer on Frame Bldgs.—Approx. $1.20 and up—according to class of work).

Face Brick Veneer on Frame Bldgs.—Approx. $2.00 and up (according to class of work).

Common Brick—$34.00 per M—truckload lots, delivered.

Face Brick—$81.00 to $106.00 per M, truckload lots, delivered.

Mantel Fire Brick—$90.00 per M—F.O.B. Pittsburgh.

Fire Brick—Per M—$96.00 to $130.00.

Cartage—Approx. $9.00 per M.

Paving—$75.00.

BUILDING PAPER & FELTS

1 ply per 1000 ft. roll	$5.30
2 ply per 1000 ft. roll	7.80
3 ply per 1000 ft. roll	9.70
Brownskin, Standard 500 ft. roll	6.85
Sisalkraft, reinforced, 500 ft. roll	7.00
Sheathing Papers—	
Asphalt sheathing, 15-lb. roll	$1.98
30-lb. roll	2.93
Campcourse, 216-ft. roll	2.95
Blue Plasterboard, 60-lb. roll	5.10
Felt Papers—	
Deadening felt, ¾-lb., 50-ft. roll	$3.13
Deadening felt, 1-lb.	3.69
Alphalt roofing, 15 lbs.	1.98
Asphalt roofing, 30 lbs.	2.93
Roofing Papers—	
Standard Grade, 108-ft. roll, Light	$1.74
Medium	2.03
Heavy	2.40
Extra Heavy	2.77

BUILDING HARDWARE—

Sash cord com. No. 7	$2.65 per 100 ft.
Sash cord com. No. 8	3.60 per 100 ft.
Sash cord spot No. 7	3.65 per 100 ft.
Sash cord spot No. 8	4.00 per 100 ft.
Sash weights, cast iron, $100.00 ton.	
1-Ton lots, per 100 lbs.	$3.75
Less than 1-ton lots, per 100 lbs.	$4.75
Nails, per keg, base	$11.00
8-in. spikes	11.00
Rim Knob lock sets	3.50
Butts, dull brass plated on steel, 3½x3½	.71

CONCRETE AGGREGATES—

The following prices net to Contractors unless otherwise shown. Carload lots only.

	Bunker per ton	Del'd per ton
Gravel, all sizes	$2.44	$2.90
Top Sand	2.38	3.13
Concrete Mix	2.38	3.06
Crushed Rock, ¼" to ¾"	2.38	2.90
Crushed Rock, ¾" to 1½"	2.38	2.90
Roofing Gravel	2.81	2.90
River Sand	2.50	3.00
Sand—		
Lapis (Nos. 2 & 4)	3.56	3.94
Olympia (Nos. 1 & 2)	3.56	3.88

Cement—

Common (all brands, paper sacks), carload lots, $3.39 per bbl. f.o.b. car; delivered $3.60.

Per Sack, small quantity (paper) $1.00

Carload lots, in bulk per bbl. 2.79

Cash discount on carload lots, 10c a bbl., 10th Prox., less than carload lots $4.00 per bbl. f.o.b. warehouse or delivered.

Cash discount 2% on L.C.L.

Trinity White, Medusa White: 1 to 100 sacks, $3.13 sack warehouse or del.; $9.56 bbl. carload lots.

CONCRETE READY-MIX—

1-2-4 mix, to 10 yards*	$11.15
10 to 100* yards	10.15
100 to 500 yards	9.65
Over 500 yards	9.45

* Delivered to site.

CONCRETE BLOCKS—

	Haydite	Basalt
4x8x16-inches, each	$.16	$.16
6x8x16-inches, each	.21	.21
8x8x16-inches, each	.25	.25
12x8x16-inches, each	.33	.375
12x8x24-inches, each	....	.60

Haydite Aggregates—

¾-inch to ⅜-inch, per cu. yd. $6.50

⅜-inch to ⅛-inch, per cu. yd. 6.50

⅛-inch to 0-inch, per cu. yd. 7.00

DAMPPROOFING and Waterproofing—

Two-coat work, $9.00 per square.

Membrane waterproofing—4 layers of saturated felt, $10.00 per square.

Hot coating work, $5.00 per square.

Medusa Waterproofing, $3.50 per lb. San Francisco Warehouse.

Tricosal concrete waterproofing. 50c a cubic yd. and up.

ELECTRIC WIRING—$15 to $20 per outlet for conduit work (including switches).

Knob and tube average $6.00 per outlet. (Available only for priority work.)

ELEVATORS—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing a slow speed automatic passenger elevator in small four story apartment building, including entrance doors, about $8000.00.

EXCAVATION—

Sand, $1.00; clay or shale, $1.50 per yard.

Trucks, $30 to $45 per day.

Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

FIRE ESCAPES—

Ten-foot galvanized iron balcony, with stairs, $250 installed on new buildings; $300 on old buildings.

FLOORS—

Composition Floors, such as Magnesita, 50c per square foot.

Linoflor—2 gages—$3.00 per sq. yd.

Mastipave—$1.50 per sq. yd.

Battleship Linoleum—⅛"—$3.50 sq. yd.; 1/16"—$3.50 sq. yd.

Terazzo Floors—$1.50 per sq. ft.

Terazzo Steps—$2.50 per lin. ft.

Mastic Wear Coat—according to type—20c to 35c.

Hardwood Flooring—

Standard Mill grades not available.

Victory Oak—T & G

25/32 x 2¼"	$252.00 per M. plus Cartage
½ x 2"	$210.00
½" x 1½"	200.00

Prefinished Standard & Better Oak Flooring

25/32 x 3¼"	$265.00 per M. plus Cartage
½ x 2½"	237.00 per M. plus Cartage

Maple Flooring

25/32" T & G Clear	$330.00 per M. plus Ctg.
2nd	305.00 per M. plus Ctg.
3rd	255.00 per M. plus Ctg.

Floor Layers' Wage, $2.35 hr. (Legal as of Nov. 1, 1949. Given us by Inlaid Floor Co.)

GLASS—

Single Strength Window Glass	$ .27 per □ ft.
Double Strength Window Glass	.38 per □ ft.
Plate Glass, ¼ polished to 75	1.10 per □ ft.
Plate Glass, ¼ polished, 75 to 100	1.40 per □ ft.
¼ in. Polished Wire Plate Glass	2.00 per □ ft.
¼ in. Rgh. Wire Glass	.64 per □ ft.
Obscure Glass	.45 per □ ft.

Glazing of above is adidtional.

Glass Blocks $2.75 per □ ft. set in place

HEATING—

Average, $2.50 to $3.00 per sq. ft. of radiation, according to conditions.

Warm air (gravity) average $64 per register.

Forced air average $91 per register.

INSULATION AND WALLBOARD—

Rockwool Insulation—
(2") ..... $65.00 per M sq ft.
Cotton Insulation—Full-thickness
(3⅜") ..... $95.50 per M sq. ft.
Sisalation Aluminum Insulation—Aluminum coated on both sides ..... $23.50 per M sq. ft.
Tileboard—4'x6' panel ..... $9.00 per panel
Wallboard—½" thickness ..... $55.00 per M sq. ft.
Finished Plank ..... $69.00 per M sq. ft.
Ceiling Tileboard ..... $69.00 per M sq. ft.

IRON—Cost of ornamental iron, cast iron, etc., depends on designs.

LUMBER—

No. 1 Common ..... $85.00 per M
No. 2 Common ..... 83.00 per M
Select O. P. Common ..... 90.00 per M

Flooring—

	Per M Delvd
V.G.-D.F. B & Btr. 1 x 4 T & G Flooring	$225.00
"C" and better—all	225.00
"D" and better—all	225.00
Rwd. Rustic—"A" grade, medium dry, 6 to 24 ft.	185.00
"B" grade, medium dry	150.00
Plywood	18c to 20c per ft.
Plyscord	11½c per ft.
Plywall	9c per ft.
Plyform	15c per ft.

Shingles (Rwd. not available)—

Red Cedar No. 1—$9.50 per square; No. 2, $7.00; No. 3, $5.00.
Average cost to lay shingles, $6.00 per square.
Cedar Shakes—½" to ¾" x 24/26 in handsplit tapered or split resawn, per square $15.25
¾" to 1¼" x 24/26 in split resawn, per square 17.00
Average cost to lay shakes,— 8.00 per square

MARBLE—(See Dealers)

METAL LATH EXPANDED—

Standard Diamond, 3.40, Copper Bearing, per carloads, per 100 sq. yds. $39.00
Standard Ribbed, ditto $41.00

MILLWORK—Standard.

D. F. $150 per 1000. R. W. Rustic $175 per 1000 (delivered).
Double hung box window frames, average with trim, $12.50 and up, each.
Complete door unit, $15 to $25.
Screen doors, $8.00 to $12.00 each.
Patent screen windows, $1.25 a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., upper $9.00 to $11.00; lower $12.00 to $13.00.
Dining room cases, $20.00 per lineal foot. Rough and finish about $1.00 per sq. ft.
Labor—Rough carpentry, warehouse heavy framing (average), $75.00 per M.
For smaller work average, $85.00 to $100. per 1000.

PAINTING—

Two-coat work ..... per yard 85c
Three-coat work ..... per yard $1.10
Cold water painting ..... per yard 25c
Whitewashing ..... per yard 15c

Linseed Oil, Strictly Pure (Basis 7¾ lbs. per gal.)	Raw	Wholesale Boiled
Light iron drums ..... per gal.	$2.02	$2.08
5-gallon cans ..... per gal.	2.14	2.20
1-gallon cans ..... each	2.26	2.32
Quart cans ..... each	.62	.64
Pint cans ..... each	.34	.35

Turpentine (Basis, 7.2 lbs. per gal.)	Pure Gum Spirits
Light iron drums ..... per gal.	$1.00
5-gallon cans ..... per gal.	1.12
1-gallon cans ..... each	1.24
Quart cans ..... each	.38
Pint cans ..... each	.23

Replacement Oil—$2.75 per gal. in drums. $2.75 per gal. in 5-gal. containers.
Use Replacement Oil ..... $3.00 per gal. in 1 gal. cont.
A deposit of $7.50 required on all drums.

PATENT CHIMNEYS—

6-inch ..... $2.50 lineal foot
8-inch ..... 3.00 lineal foot
10-inch ..... 4.00 lineal foot
12-inch ..... 5.00 lineal foot

PLASTER—

Neat wall, per ton delivered in S. F. in paper bags, $17.60.

PLASTERING (Interior)—

	Yard
3 Coats, metal lath and plaster	$3.00
Keene cement on metal lath	3.50
Ceilings with ¾ hot roll channels metal lath (lathed only)	3.00
Seilings with ¾ hot roll channels metal lath plastered	4.50
Single partition ¾ channel lath 1 side (lath only	3.00
Single partition ¾ channel lath 2 inches thick plastered	8.00
4-inch double partition ¾ channel lath 2 sides (lath only)	5.75
4-inch double partition ¾ channel lath 2 sides plastered	8.75
Thermax single partition; 1" channels; 2¼" overall partition width. Plastered both sides	7.50
Thermax double partition; 1" channels; 4¾" overall partition width. Plastered both sides	11.00
3 Coats over 1" Thermax nailed to one side wood studs or joists	4.50
3 Coats over 1" Thermax suspended to one side wood studs with spring sound isolation clip	5.00

Note—Channel lath controlled by limitation orders.

PLASTERING (Exterior)—

	Yard
2 coats cement finish, brick or concrete wall	$2.50
3 coats cement finish, No. 18 gauge wire mesh	3.50

Lime—$4.00 per bbl. at yard.
Processed LLiLme—$4.15 per bbl. at yard.
Rock or Grip Lath—⅜"—30c per sq. yd.
⅝"—29c per sq. yd.

Composition Stucco—$4.00 sq. yard (applied).

PLUMBING—

From $200.00 per fixture up, according to grade, quality and runs.

ROOFING—

"Standard" tar and gravel, 4 ply—$11.00 per sq. for 30 sqs. or over.
Less than 30 sqs. $14.00 per sq.
Tile $40.00 to $50.00 per square.
No. 1 Redwood Shingles in place, 4½ in. exposure, per square $18.25
5/2 No. 1 Cedar Shingles, 5 in. exposure, per square 14.50
5/8 x 16"—No. 1 Little Giant Cedar Shingles, 5" exposure, per square .. 18.25
4/2 No. 1-24" Royal Cedar Shingles 7½" exposure, per square 23.00
Re-coat with Gravel $5.50 per sq.
Asbestos Shingles $35 to $45 per sq. laid.
½ to ¾ x 25" Resawn Cedar Shakes, 10" Exposure $24.00
¾ to 1¼ x 25" Resawn Cedar Shakes, 10" Exposure $29.00
1 x 25" Resawn Cedar Shakes, 10" Exposure 22.00
Above prices are for shakes in place.

SEWER PIPE—

C.I. 6-in. to 24-in. B. & S. Class B and heavier, per ton $99.50
Vitrified, per foot:
Standard, 8-in. ..... $ .60
Standard, 12-in. 1.17
Standard, 24-in. 5.04
Clay Drain Pipe, per 1,000 L.F. in carload lots:
Standard, 6-in. $211.00
Standard, 8-in. 352.00

SHEET METAL—

Windows—Metal, $2.50 a sq. ft.
Fire doors (average), including hardware $2.80 per sq. ft., size 12'x12'. $3.75 per sq. ft., size 3'x6'.

SKYLIGHTS—(not glazed)

Copper, $1.25 sq. ft. (flat).
Galvanized iron, 65c sq. ft. (flat).
Vented hip skylights, $1.50 sq. ft.

STEEL—STRUCTURAL—

$220 per ton erected, when out of mill.
$270 per ton erected, when out of stock.

STEEL REINFORCING—

$200.00 per ton, in place.

¼-in. Rd. (Less than 1 ton)	$7.65
⅜-in. Rd. (Less than 1 ton)	6.55
½-in. Rd. (Less than 1 ton)	6.25
⅝-in. Rd. (Less than 1 ton)	6.00
¾-in. & ⅞-in. Rd. (Less than 1 ton)	5.90
1-in. & up (Less than 1 ton)	5.85

1 ton to 5 tons, deduct 15c.

STORE FRONTS (None available).

TILE—

Ceramic Tile Floors—Commercial $1.15 to $1.50.
Cove Base—$1.35 per lin. ft.
Tile Wainscot & Floors—Residential $1.50 to $1.75.
Tile Wainscot—Commercial $1.35 to $1.50.
Asphalt Tile Floor ⅛" x ⅞"—$ .40 per sq. ft
Light shades slightly higher.
Cork Tile—$1.00 per sq. ft.
Mosaic Floors—See dealers.
Lino-Tile—$1.00 per sq. ft.

Wall Tile—

Glazed Terra Cotta Wall Units (single faced) laid in place—approximate prices:

2 x 6 x 12	$1.25 sq. ft.
4 x 6 x 12	1.50 sq. ft.
2 x 8 x 16	1.45 sq. ft.
4 x 8 x 16	1.75 sq. ft.

Building Tile—

8x5½x12-inches, per M	$139.50
6x5½x12-inches, per M	105.00
4x5½x12-inches, per M	84.00

Hollow Tile—

12x12x2-inches, per M	$116.00
12x12x3-inches, per M	124.00
12x12x4-inches, per M	140.00
12x12x6-inches, per M	186.00

F.O.B. Plant

VENETIAN BLINDS—

75c per square foot and up. Installation extra.

WINDOWS—STEEL—

60c per square foot, $5 for ventilators.

ARCHITECT AND ENGINEER
STIMATOR'S DIRECTORY
Building And Construction Materials

EXPLANATION—Building and construction materials are shown in major classified groups for general identification purposes with names and addresses of suppliers of materials listed in detail under group classification where name first appears—main offices are shown first, with branch or district offices following. The numeral appearing in listings refers to the major group classification where complete data on the dealer, or representative, may be found.

ITECTURAL VENEER (a)
ic Veneer
IFIC CLAY PRODUCTS
Francisco: 605 Market St., GA 1-3970
Angeles, Portland, Salt Lake City
DDING, McBEAN & CO. *(1)
in Veneer
CELAIN ENAMEL PUBLICITY BUREAU
t. AE-450)
n 601, Franklin Building, Oakland 12, California
Box 186, East Pasadena Station, Pasadena 8, ornia
e Veneer
EMONT MARBLE COMPANY
Francisco: 525 Market Street, SU 1-6747
Veneer
EMONT MARBLE COMPANY
Francisco: 525 Market Street, SU 1-6747

WORK (1)
rick
DDING, McBEAN & CO.
Francisco: Harrison at 9th Sts., UN 1-7400
Angeles: 2901 Los Feliz Blvd., OL 2121
es at Portland, Seattle, Spokane
RTILE
, California, Niles 3611
Francisco 5: 50 Hawthorne St., DO 2-3780
Angeles 13: 406 South Main St., MU 7241
ILLARD-DANDINI CO.
Francisco: 400 Montgomery St., EX 2-4988

LING PAPER & FELTS (2)
SISALKRAFT COMPANY
Francisco: 55 New Montgomery St., EX 2-3066
hago, Ill.: 205 West Wacker Drive
IER PACIFIC CORP.
Francisco 5: 55 New Montgomery St., DO 2-4416
Angeles: 7424 Sunset Boulevard

LING HARDWARE (3)
STANLEY WORKS
Francisco: Monadnock Bldg., YU 6-5914
Britain, Conn.

MNT (c)
IFIC PORTLAND CEMENT
Francisco: 417 Montgomery St., GA 1-4100

RETE AGGREGATES (4)
ight Aggregates
RICAN PERLITE CORP.
mond, Calif.: 26th & B Sts.—Yard 2, RI 4307

SCAPES (5)
LE STEEL
Francisco: 1750 Army St., VA 4-4141
Angeles, Calif.—LA 0911
and, Ore.—BE 5155
le, Wash.—SE 3010
MICHAEL & PFEFFER IRON WORKS, INC.
San Francisco 3: Tenth & Harrison Sts., MA 1-5966

FLOORS (6)
Hardwood Flooring
HOGAN LUMBER COMPANY
Oakland: Second and Alice Sts., GL 1-6861
E. K. WOOD LUMBER CO.
Los Angeles: 4710 S. Alameda St., JE 3111
Oakland: 727 Kennedy St., KE 4-8466
Portland: 827 Terminal Sales Building

GLASS (7)
W. P. FULLER COMPANY
San Francisco: 301 Mission St., EX 2-7151
Los Angeles, Calif.
Portland, Oregon

HEATING (8)
HENDERSON FURNACE & MFG. CO.
Sebastopol, Calif.
S. T. JOHNSON CO.
Oakland 8: 940 Arlington Ave., OL 2-6000
San Francisco: 585 Potrero Ave., MA 1-2757
Philadelphia B, Pa.: 401 No. Broad St.
SCOTT COMPANY
San Francisco: 243 Minna St., YU 2-0400
Oakland: 113 - 10th St., GL 1-1937
San Jose, Calif.
Los Angeles, Calif.
THOMAS B. HUNTER (Designer)
San Francisco: 41 Sutter St., GA 1-1164

INSULATION AND WALLBOARD (9)
LUMBER MANUFACTURING CO.
San Francisco: 225 Industrial Ave., JU 7-1760
SISALKRAFT COMPANY *(2)
WESTERN ASBESTOS COMPANY
San Francisco: 675 Townsend St., KL 2-3868
Oakland: 251 Fifth Avenue, GL 1-2345
Sacramento: 1224 I Street, 2-8993
Stockton: 1120 E. Weber Ave., 4-1863
Fresno: 1837 Merced Street, 3-3277
San Jose: 201 So. Market St., BA 4359-J

IRON—Ornamental (10)
MICHEL & PFEFFER IRON WORKS, INC. * (5)

LIGHTING FIXTURES (11)
SMOOT-HOLMAN COMPANY
Inglewood, Calif., OR 8-1217
San Francisco: 55 Mississippi St., MA 1-8474

LUMBER (12)
HOGAN LUMBER COMPANY *(6)
LUMBER MANUFACTURING CO. *(9)
E. K. WOOD LUMBER CO *(6)
Shingles
SIDEWALL LUMBER COMPANY
San Francisco 24: 1995 Oakdale Ave., AT 2-8112

MARBLE (13)
VERMONT MARBLE COMPANY
San Francisco: 525 Market St., SU 1-6747
Los Angeles 4: 3522 Council St., FA 7834

METAL LATH EXPANDED (14)
FORDERER CORNICE WORKS
San Francisco: 269 Potrero Ave., HE 1-4100
SOULE STEEL *(5)

MILLWORK (15)
PACIFIC MANUFACTURING COMPANY
San Francisco: 16 Beale St., GA 1-7755
Santa Clara: 2610 The Alameda, SC 607
Los Angeles: 6820 McKinley Ave., TH 4196
MULLEN MANUFACTURING COMPANY
San Francisco: 60-80 Rausch St., UN 1-5815
LUMBER MANUFACTURING COMPANY *(9)

PAINTING (16)
Paint
W. P. FULLER COMPANY *(7)

PLASTER (17)
Exteriors
PACIFIC PORTLAND CEMENT COMPANY*(4)
Interiors—Metal Lath & Trim
FORDERER CORNICE WORKS *(14)

PLASTIC CEMENT (f)
PACIFIC PORTLAND CEMENT CO.
San Francisco: 417 Montgomery St., GA 1-4100

PLUMBING (18)
THE SCOTT COMPANY *(8)
THE HALSEY TAYLOR COMPANY
Redlands, Calif.
Warren, Ohio
HAWS DRINKING FAUCET COMPANY
Berkeley 10: 1435 Fourth St., LA 5-3341
CONTINENTAL WATER HEATER COMPANY
Los Angeles 31: 1801 Pasadena Ave., CA 6178
SIMONDS MACHINERY COMPANY
San Francisco: 816 Folsom St., DO 2-6794
Los Angeles: 455 East 4th St., MU 8322
SECURITY VALVE COMPANY
Los Angeles 31: 410 San Fernando Rd., CA 6191

SEWER PIPE (19)
GLADDING, McBEAN & CO. *(1)

PACIFIC CLAY PRODUCTS
San Francisco: 605 Market St., GA 1-3970
Los Angeles, Portland, Salt Lake City

SHEET METAL (20)

Windows

DETROIT STEEL PRODUCTS COMPANY
Oakland 8: 1310 - 63rd St., OL 2-8826
San Francisco: Russ Building, DO 2-0890

MICHEL & PFEFFER IRON WORKS, INC. *(5)
SOULE STEEL COMPANY *(5)

Fire Doors

DETROIT STEEL PRODUCTS COMPANY

Skylights

DETROIT STEEL PRODUCTS COMPANY

STEEL—STRUCTURAL (21)

HERRICK IRON WORKS
Oakland: 18th & Campbell Sts., GL 1-1767

JUDSON PACIFIC-MURPHY CORP.
Emeryville: 4300 Eastshore Highway, OL 3-1717

REPUBLIC STEEL CORP.
San Francisco: 116 N. Montgomery St., GA 1-0977
Los Angeles: Edison Building
Seattle: White-Henry-Stuart Building
Salt Lake City: Walker Bank Building
Denver: Continental Oil Building

KRAFTILE COMPANY *(1)

SAN JOSE STEEL COMPANY
San Jose: 195 North Thirtieth St., CO 4184

STEEL—REINFORCING (22)

REPUBLIC STEEL CORP. *(21)
HERRICK IORN WORKS *(21)
SAN JOSE STEEL CO. *(21)

TILE (23)

GLADDING, McBEAN & CO. *(1)
KRAFTILE COMPANY *(1)
PACIFIC CLAY PRODUCTS
San Francisco: 605 Market St., GA 1-3970
Los Angeles, Portland, Salt Lake City

TIMBER—REINFORCING (b)

Trusses

WEYERHAEUSER SALES CO.
Tacoma, Wash.
St. Paul, Minn.
Newark, N. J.

Treated Timber

J. H. BAXTER CO.
San Francisco 4: 333 Montgomery St., DO 2-3883
Los Angeles 13: 601 West Fifth St., MI 6294

WALL TILE (24)

GLADDING, McBEAN & CO. *(1)
KRAFTILE COMPANY *(1)

WINDOWS STEEL (25)

DETROIT STEEL PRODUCTS CO. *(20)

MICHEL & PFEFFER IRON WORKS, IN
SOULE STEEL COMPANY *(5)

GENERAL CONTRACTORS (26)

DINWIDDIE CONSTRUCTION COMP
San Francisco: Crocker Building, YU 6-29
CLINTON CONSTRUCTION COMPA
San Francisco: 923 Folsom St., SU 1-344
MATTOCK CONSTRUCTION COMPA
San Francisco: 604 Mission St., GA 1-55
STOLTE, INC.
Oakland: 8451 San Leandro Blvd., TR 2-
SWINERTON & WALBERG COMPAN
San Francisco: 225 Bush St., GA 1-2980
Oakland: 1723 Webster St., HI 4-4322
Los Angeles, Sacramento, Denver
P. J. WALKER COMPANY
San Francisco: 391 Sutter St., YU 6-591
Los Angeles: 3920 Whiteside St., AN 9-

TESTING LABORATORIES (ENGINEERS & CHEMISTS) (27)

ABBOT A. HANKS, INC.
San Francisco: 624 Sacramento St., GA
ROBERT W. HUNT COMPANY
San Francisco: 251 Kearny St., EX 2-463
Los Angeles: 3050 E. Slauson, JE 9131
Chicago, New York, Pittsburgh
PITTSBURGH TESTING LABORATORY
San Francisco: 651 Howard St., EX 2-174

BUILDING TRADES WAGE (JOB SITES) NORTHERN, CENTRAL AND SOUTHERN CALIFORNIA

ATTENTION: The following are the PREVAILING hourly rates of compensation being paid and in effect by employers by agreement between employees and their union; or as recognized and determined by the U. S. Department of Labor. (Revised to Sept. 1, 1949.)

CRAFT	San Francisco	Alameda	Contra Costa	Fresno	Sacramento	Santa Clara	Solano	Stockton	Los Angeles	San Bernardino	San Diego	Santa Barbara	Kern
ASBESTOS WORKERS	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.25	$2.25	$2.25	$2.25	$2.25
BRICKLAYERS	3.00*	3.00	3.00	2.50	3.00	3.00	3.00	2.05*	2.265	2.50	2.50	2.625	2.50
BRICKLAYERS, HODCARRIERS	2.25	2.25	2.25	2.00	2.00	1.75	2.25	1.60*	1.75	1.75	1.75	1.75	1.75
CARPENTERS	2.16	2.16	2.175	2.175	2.175	2.175	2.175	2.175	2.12	2.12	2.12	2.12	2.12
CEMENT FINISHERS	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20
ELECTRICIANS	2.50	2.50	2.50	2.25	2.50	2.50	2.40	2.40	2.40	2.40	2.375	2.40	2.15
ELEVATOR CONSTRUCTORS	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.25	2.25	2.25	2.25	2.25
ENGINEERS: MATERIAL HOIST	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	1.9875	1.9875	1.9875	1.9875	1.9875
PILE DRIVER	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.32	2.32	2.32	2.32	2.32
STRUCTURAL STEEL	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.30	2.30	2.2375	2.30	2.30
GLAZIERS	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.96
IRONWORKERS: ORNAMENTAL	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.175	2.175	2.1125	2.175	2.175
REINF. RODMEN	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.20	2.20	2.20	2.20	2.20
STRUCTURAL	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.30	2.30	2.2375	2.30	2.30
LABORERS: BUILDING	1.55	1.55	1.55	1.45	1.55	1.45	1.55	1.55	1.57	1.57	1.57	1.57	1.57
CONCRETE	1.55	1.55	1.55	1.45	1.55	1.45	1.55	1.55	1.57	1.57	1.57	1.57	1.57
LATHERS	2.8125	2.8125	2.8125	2.8125	2.00*	2.50*	2.8125	2.8125	2.50	2.50	2.50	2.50	2.50
MARBLE SETTERS	2.375	2.375	2.375	2.375	2.375	2.375	2.375	2.375	2.25	2.25	2.25	2.25	2.25
MOSAIC & TERRAZZO	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.40	2.40	2.20	2.40	2.40
PAINTERS	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.00	1.90	2.10	2.18	2.25
PILEDRIVERS	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25
PLASTERERS	2.8125	2.50*	2.50*	2.25*	2.25*	2.50*	2.50*	2.8125	2.50	2.75	2.50	2.50	2.50
PLASTERERS, HODCARRIERS	2.50	2.25*	2.25*	1.775*	2.00*	2.00*	2.25*	2.16	2.15	2.25	2.30	2.00	2.00
PLUMBERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
ROOFERS	2.25	2.25	2.25	1.875	2.00	2.00	2.16	2.25	2.25	2.00	1.90	2.00	2.00
SHEET METAL WORKERS	2.25	2.25	2.25	2.125	2.30	2.40	2.125	2.125	2.15	2.15	2.175	2.00	2.15
SPRINKLER FITTERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.25	2.25	2.25	2.25	2.25
STEAMFITTERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
STONESETTERS (MASONS)	3.00	2.8125	2.8125	2.25*	2.8125	2.8125	2.8125	2.05*	1.50	1.50	1.50	2.625	1.715
TILESETTERS	2.675	2.675	2.675	2.15	2.00	2.675	2.675	2.4375	2.50	2.50	2.20	2.50	2.25

* 6 Hour Day. ** 7 Hour Day.

Prepared and compiled by:
CENTRAL CALIFORNIA CHAPTER, ASSOCIATED GENERAL CONTRACTORS OF AMERICA, with the assistance and cooperation of secretaries of General Contractors Associations and Builders Exchanges of Northern California; and the above information for southern California is furnished by the Labor Relations Department of the Southern California Chapter, ASSOCIATED GENERAL CONTRACTORS OF AMERICA.

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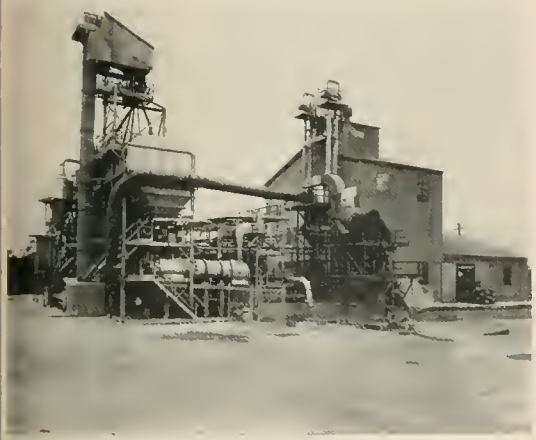
GREAT LAKES CARBON CORPORATION PERMALITE PLANT AT TORRANCE

Nearly 750 architects, engineers, general contractors, plastering contractors, building supply dealers, building officials and representatives of organized labor attended a day-long "Open House" at the Great Lakes Carbon Corporation Permalite Plant in Torrance, California, the early part of June.



GENERAL VIEW OF THE TORRANCE (Calif.) PLANT

Featured during the day was a tour of the plant, with every phase of production explained, and an added attraction was actual on-the-wall demonstrations of Permalite plaster to show handling and workability.

The plant, originally built in 1946, has been completely revamped several times and capacity more than quadrupled.

SIMPLIFIED PRACTICE RECOMMENDATION REINFORCING STEEL BARS

A recommendation for revision of Simplified Practice Recommendation R26-49, pertaining to steel reinforcing bars has been made by the Standing Committee and copies have been mailed to producers, distributors, users, and others for acceptance and comment.

The recommendation covers the standard sizes of steel reinforcing bars.

DESIGN PRIZES FOR CONTROL OF FIRE AND SMOKE ARE OFFERED

The Boston, Mass., insurance firm of Durham & Bates, are offering prizes totaling $1000 for the best description of methods to provide ventilation to reduce fire and smoke losses from a basement fire in a typical mercantile store.

Complete information and rules are available from the National Fire Protection Association, 60 Batterymarch St., Boston, Mass. Any individual is eligible.

JUVENILE HALL

The County of Alameda, through the county board of supervisors, recently announced plans for the construction of a new Juvenile Hall Building on the Fairmont Hospital Grounds at San Leandro.

The main building will be of 2-story reinforced concrete construction, and there will be five other single story structures to be used as dormitories and for dependent children.

Kent & Hass of San Francisco are the architects. Cost of the project will exceed $1,800,000.

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CONSTRUCTION CONTRACTS AWARDED AND MISCELLANEOUS PERSONNEL DATA

NEW DOWNEY HIGH SCHOOL BUILDINGS Modesto, Stanislaus County. Modesto Board of Education, owner. Classrooms, administration, science, domestic science, 2 gyms, cafeteria, music, library, agricultural shop and shop buildings. $1,011,950. ARCHITECT: Harry J. Devine, Sacramento. Reinforced concrete. GENERAL CONTRACTOR: Frank A. Payne & Son, Orinda.

ANIMAL SHELTER, Santa Clara, Santa Clara County. ARCHITECT: Kochler & Logue (H. L. Logue, Architect), San Jose. Kennels, reinforced concrete construction, radiant heating. Office and residence, frame and stucco construction. $44,949. GENERAL CONTRACTOR: W. J. Nicholson Co., Santa Clara.

MEDICAL BUILDING ADDITION, Berkeley, Alameda County. Dr. Hargrove, owner. 3 suites of offices, $25,777. ARCHITECT: J. Clarence Felciano, Santa Rosa. Concrete block and frame construction. GENERAL CONTRACTOR: Harry K. Jensen, Oakland.

GRAMMAR SCHOOL ADDITION, Auberry, Fresno County. Auberry Union Elementary School District, owner. $84,482. ARCHITECT: Coates & Metz, Fresno. Frame and stucco construction. GENERAL CONTRACTOR: Robert Jolly, Fresno.

GRAND STAND AND RODEO CHUTES, Vallejo, Solano County. County of Solano, owner. $89,870. ARCHITECT: Horry J. Devine, Sacramento. Grandstand, reinforced concrete construction, 204 ft. long. GENERAL CONTRACTOR: Barrett & Hilp, San Francisco.

OFFICE AND WAREHOUSE BUILDING, Sacramento, Sacramento County. Brunswig Drug Co., owner. $303,193. ARCHITECT: Albert C. Martin & Assoc., Los Angeles. Reinforced concrete construction. GENERAL CONTRACTOR: Cahill Bros., San Francisco.

COUNTRY CLUB BUILDING, Bakersfield, Kern County. Country Club Properties, Inc., owner. $141,917. ARCHITECT: Robert N. Eddy, Bakersfield. 1 story, 15,000 sq. ft., frame and stucco and brick veneer, concrete floor slab, rubber tile, parquet hardwood and asphalt tile floors & insulation. GENERAL CONTRACTOR: Guy E. Hall, Bakersfield.

APARTMENT BUILDING, San Jose, Santa Clara County. Robert Griffiths, owner. 48 apartments. $220,000. ARCHITECT: Donell E. Jaekle, San Jose. 3 story and basement garage. Garage reinforced concrete, balance frame and stucco construction, steel sash, tile baths, steel kitchen cabinets. GENERAL CONTRACTOR: Geo. J. Lauer, San Jose.

STORE BUILDING, Visalia, Tulare County. Sears Roebuck & Co., owner. Approximately $180,000. ARCHITECT: Stiles Clements, Los Angeles. 1 story, 117x141, brick and structural steel frame, wood roof, air conditioning, plate glass front. Service station and warehouse building. GENERAL CONTRACTOR: Trewhitt, Shields & Fisher, Fresno.

GRAMMAR SCHOOL, Barkerfield, Kern County. Mountain View Elementary School District, owner. 8 classrooms, 2 kindergartens, offices and toilet room, $189,355. ARCHITECT: Wright, Metcalf & Parsons, Bokersfield. 1 story, 22,737 sq. ft., frame and stucco construction, steel sash, concrete slab floor, asphalt tile, acoustical work and insulation. GENERAL CONTRACTOR: Guy E. Hall, Bakersfield.

RADIOLOGICAL LABORATORY BUILDING San Francisco. University of California, owner. $264,633. ARCHITECT: Blanchard & Maher, San Francisco. STRUCTURAL ENGINEER: Huber & Knapik, San Francisco. MECHANICAL ENGINEER: Keller & Gannon, San Francisco. 2 story, 9,500 sq. ft., reinforced concrete construction and a 3 story hydraulic elevator. GENERAL CONTRACTOR: Erbentraut & Summers, San Francisco.

NEW HIGH SCHOOL BUILDINGS, Truckee, Nevada County. Tahoe-Truckee Joint Unified School, owner. 8 classrooms, science, commercial, home economics, gymnasium, cafeteria, shop, library, administration and toilet rooms, $704,362. ARCHITECT: Gordon Stafford, Sacramento. Structural steel frame and pre cast concrete panel exterior. GENERAL CONTRACTOR: Mervin L. Gordner, Reno.

GYMNASIUM BUILDING, Sacramento, Sacramento County. Sacramento Board of Education, owner. $228,000. ARCHITECT: Chas. F. Dean, Sacramento. Reinforced concrete construction. GENERAL CONTRACTOR: A. L. Miller, Sacramento.

GYMNASIUM BUILDING, Sacramento, Sacramento County. Sacramento Board of Education, owner. $203,000. ARCHITECT: Leonard F. Starks, Sacramento. Reinforced concrete construction. GENERAL CONTRACTOR: Chas. F. Unger, Sacramento.

INSURANCE OFFICE BUILDING. Menlo Park, San Mateo County. Allstate Insurance Company, owner. $186,983. ARCHITECT: Higgins & Root, San Jose. 1 story, & part basement, 24,000 sq. ft. reinforced concrete frame construction. GENERAL CONTRACTOR: Howard I. White Inc., Palo Alto.

CHINESE RECREATION CENTER, San Francisco. Recreation Commission of the City & County of San Francisco, owner. $326,384. ARCHITECT: Wm. G. Merchant, San Francisco. 2 story, reinforced concrete construction. GENERAL CONTRACTOR: H. L. Peterson Construction Co., San Francisco.

FACTORY ADDITION, Oakland, Alameda County. Auto Lite Battery Corp., owner. $37,592. ARCHITECT: F. N. Ropp, Los Angeles. Brick & structural steel construction. GENERAL CONTRACTOR: Geo. Peterson & Son, San Leandro.

DOYLE PARK GRAMMAR SCHOOL, Santa Rosa, Sonoma County. Santa Rosa Elementary School District, owner. 8 classrooms, kindergarten, offices & toilet rooms, $4,407. ARCHITECT: C. A. Caulkins, Santa Rosa. Frame & stucco construction. GENERAL CONTRACTOR: Wm. D. Rapp, Santa Rosa.

HOME FOR JEWISH AGED, Oakland, Alameda County. Jewish Welfare Federation, owner. $22,000. ARCHITECT: Wm. E. Stalmer & Wm. A. Rich, Assocs., Oakland 2 story, reinforced concrete & frame construction. GENERAL CONTRACTOR: Van Kelen-Cole Co., Oakland.

OFFICE, CLEANING PLANT & W.E. HOUSE, Mt. View, Santa Clara County. Ferry-Morse Seed Co., owner. $500,000. ENGINEER: Hall & Pregnoff, San Francisco. Office; frame & stucco construction; plant & warehouse; reinforced concrete & structural steel, wood roof. GENERAL CONTRACTOR: Wagner & Martinez, San Francisco.

GRAMMAR SCHOOL, Livingston, Merced County. Livingston Union Elementary School District, owner. 4 classrooms & toilet room, $68,800. ARCHITECT: Frank Wykoop & Assoc., Fresno. GENERAL CONTRACTOR: Hubbard & Sons, Turlock.

AUTO SALES & SERVICE BUILDING, Vallejo, Solano County. Claude Wilson, owner. $77,712. ARCHITECT: R. F. Keefer, Oakland. 1 story, concrete block & frame construction. Plate glass front. GENERAL CONTRACTOR: Val-Nap Builders, Vallejo.

SUNDAY SCHOOL ADDITION, Berkeley, Alameda County. Calvary Presbyterian Church, owner. $96,178. ARCHITECT: Hatcliff-Haymond-Ratcliff, Berkeley. 1 story & basement. Frame & stucco construction. GENERAL CONTRACTOR: Ellam & Quinn, Richmond.

GRAMMAR SCHOOL ADDITION, Los Gatos, Santa Clara County. Union District Elementary Schools District, owner. Kindergarten & multi-use room. $55,379. ARCHITECT: Higgins & Root, San Jose. Frame & stucco construction. GENERAL CONTRACTOR: A. Hathaway & Co., San Jose.

GRAMMAR SCHOOL ADDITION, San Clara, Santa Clara County. Jefferson Union Elementary School District, owner. 2 classrooms, wings and administration unit, $115,112. ARCHITECT: Falk Assoc., San Francisco. Concrete blocks and structural steel frame. GENERAL CONTRACTOR: E. Hathaway & Co., San Jose.

HIGH SCHOOL ADDITION, Avenal, Kings County. Lemoore Union High School District, owner. Auditorium & music Building. $39,685. ARCHITECT: Franklin & Simpson, Fresno. GENERAL CONTRACTOR: R. T. Deal, Avenal.

APARTMENT BUILDING REMODEL, Berkley, Alameda County. Weston Havem, owner. 24 apartments. $150,000. ARCHITECT: F. L. R. Confer & J. H. Ostwald, Oakland 3 story complete interior & exterior remodel. GENERAL CONTRACTOR: Buc Reininghaus, Piedmont.

CONVENT, Visalia, Tulare County. Roman Catholic Diocese of Fresno-Monterey, owner. $49,300. ARCHITECT: Horn & Mortlan Visalia. GENERAL CONTRACTOR: Midsto Construction Co., Fresno.

FACTORY ADDITION, Richmond, Contra Costa County. Rheem Mfg. Co., owne $175,000. ARCHITECT: Alben Froberg, Oakland. 1 story reinforced concrete & stuc steel frame. GENERAL CONTRACTO Christensen & Lyons, Oakland.

APARTMENT BUILDING, San Francisc Dr. Clarence Nelson, owner. $150,000. A CHITECT: H. C. Baumann, San Francisc 3 story & basement, frame & stucco Co struction. GENERAL CONTRACTOR: Mart Nelson, San Francisco.

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T. VIEW GRAMMAR SCHOOL, Martinez, ntra Costa County. Martinez Elementary hool Dist., owner. 10 classrooms, kinderrten, administration, Multi-use room & tchen, Toilet rooms. $379,750. ARCHI-CT: John Lyon Reid, San Francisco. Light el frame, frame & stucco construction, 000 sq. ft. GENERAL CONTRACTOR: ospard & Henderson, San Francisco.

URCH, Burlingame, San Mateo County. man Catholic Archbishop of S. F., owner. 50,000. ARCHITECT: Martin J. Rist, San ancisco. Reinforced concrete & frame conuction, radiant heating, asphalt tile floor. NERAL CONTRACTOR: Barrett & Hilp, n Francisco.

AREHOUSE BUILDING, Oakland, Alada County. East Bay Utility District, own- $48,877. ENGINEER: C. S. Replogle, dmont. 1 story, 50 x 240, concrete block structural steel frame. GENERAL CONTRACTOR: A. F. Stewart, Berkeley.

AMMAR SCHOOL ADDITION, Orange ve, Fresno County. Orange Cove Joint ion School Dist., owner. $101,500. ARCHI-CT: Philip S. Buckingham, Fresno. Frame stucco construction. GENERAL CONTRAC-R: Lewis C. Nelson & Sons, Selma.

W GRAMMAR SCHOOL, Orange Cove, sno County. Orange Cove Joint Union h School, owner. $136,500. ARCHITECT: ilip S. Buckingham, Fresno. Frame & stucd construction. GENERAL CONTRACTOR: wis C. Nelson & Sons, Selma.

URCH & SUNDAY SCHOOL, Oakland, meda County. Trinity Lutheran Church, ner. $100,000. ARCHITECT: Leif L. Neilsn Piedmont. Frame & stucco construction. NERAL CONTRACTOR: Reinestad & nsen, Oakland.

ARIN MEMORIAL HOSPITAL, Greenbrae, rin County. Marin County Hospital Dist., owner. 100 beds. $1,345,058. ARCHI-CT: Rob't. Stanton, Carmel. 4 story & sement, reinforced concrete construction, elevators, steel sash, asphalt tile floors. NERAL CONTRACTOR: Rob't McCarthy , San Francisco.

AMMAR SCHOOL ADDITION, St. Hel-a, Napa County. St. Helena United hool District, owner. 7 classrooms, kinderrten & toilet rooms. $144,650. ARCHI-CT: James H. Mitchell, St. Helena. Frame stucco construction. GENERAL CON-RACTOR: Ralph Larson & Son, San Fran-co.

AMMAR SCHOOL ADDITION, St. Hele-a, Napa County. St. Helena Unified School trict, owner. 7 classrooms, kindergorten oilet rooms. $144,650. ARCHITECT: James H Mitchell, San Francisco. Frame & stucco nstruction. GENERAL CONTRACTOR: alph Larson & Son, San Francisco.

ST OFFICE & STORE BUILDING, Orinda, ntra Costa County. D. L. Rheem, owner. tores. $40,000. ARCHITECT: A & A Macnzie Cantin, San Francisco. 1 story, 75 x concrete & frame construction, some uctrual steel. GENERAL CONTRACTOR: ristensen & Lyons, Oakland.

OUNTY HOSPITAL ADDITION, Eureka, mboldt County, County of Humboldt, ner. 32 beds. $114,374. ARCHITECT: est F. Winkler, San Francisco. 2 story & sement, reinforced concrete construction, el sash, composition roofing, asphalt tile ors, elevators. GENERAL CONTRACTOR: en Nash, Eureka.

DEO & HORSESHOW FACILITIES & GHTING. 3 CONCRETE HORSE BARNS & LANDSTAND STAGE. San Jose, Santa ra County. County of Santa Clara, own- $244,478. ARCHITECT: C. J. Ryland, nterey. GENERAL CONTRACTOR: Lew nes Construction Company, San Jose.

IPORIUM BRANCH DEPARTMENT ORE, San Francisco. Stoneson Development Company, owner. $2,000,000. ARCHITECT: Welton Beckett, Los Angeles. 3 story, 250,000 sq. ft., reinforced concrete construction. Class 1 B. GENERAL CONTRACTOR: MacDonald, Young & Nelson, San Francisco.

NEW OFFICE BUILDING, San Francisco, Home Insurance Co. of New York, owner. $1,000,000. ARCHITECT: T. H. Englehardt, New York; ARCHITECT: Meyer & Evers, San Francisco. STRUCTURAL ENGINEER: J. E. Hayes, San Francisco. MECHANICAL ENGINEER: Atkins & Maggio, San Francisco. 5 story & basement, 125 x 128, reinforced concrete & structural steel construction, provision for addition of 6 stories. GENERAL CONTRACTOR: Cahill Bros., San Francisco.

SUNDAY SCHOOL, San Francisco. St. Paul-as Lutheran Church, owner. $38,764. ARCHITECT: Wm. B. Fox, San Francisco. Interior & exterior remodel. GENERAL CONTRACTOR: Jacks & Irvine, San Francisco.

CLOTHING STORE REMODEL, Oakland, Alameda County. Harold & Jesse Smith, owner. $118,602. ARCHITECT: F. L. R. Confer & R. G. Willis, Oakland. 3 story & basement, interior & exterior remodel, new marble front, plate glass, new mezzanine, new elevator, new floors, plumbing, heating, plastering & painting. GENERAL CONTRACTOR: Barrett & Hilp, San Francisco.

TEACHING HOSPITAL BUILDING — SAN FRANCISCO. University of California, owner, 500 beds, $7,258,117. ARCHITECT: Milton Pflueger, San Francisco. STRUCTURAL ENGINEER: Huber & Knapik, San Francisco. MECHANICAL ENGINEER: Clyde E. Bebtley, San Francisco, 12 story and basement, structural steel frame and reinforced concrete construction. Alternate on 2 additional stories, elevators and dumbwaiters, approximately 300,000 sq. ft. and 4,100,000 cubic feet. GENERAL CONTRACTOR: Clinton Construction Company, San Francisco.

NEW FRANKLIN SCHOOL, NEW JEFFERSON SCHOOL, Berkeley, Alameda County. Berkeley Board of Education, owner. 19 classrooms, 2 kindergartens, offices, cafeteria, auditorium and toilet rooms; 14 classrooms, offices, cafeteria, auditorium and toilet rooms, $1,377,700. ARCHITECT: Kump & Assoc., San Francisco. Two story, reinforced concrete construction, some structural steel, steel cash, acoustical asphalt tile floors. GENERAL CONTRACTOR: James I. Barnes Construction So., San Francisco.

U. S. MARINE HOSPITAL ADDITION AND REMODEL, San Francisco. General Services Administration, owner. $3,932,456. ARCHITECTS: Douglas D. Stone & Lou Mulloy, San Francisco. New 6 story and basement, reinforced concrete faced with brick and terra cotta, reinforced concrete, boiler house, stalk and tunnels, steel stud and plaster partitions, steel furring, all earthquake construction. GENERAL CONTRACTOR: Robert E. McKee, Inc., Los Angeles.

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IN THE NEWS

OPENS ARCHITECTURAL OFFICE

Emerson C. Scholer, Nicholas Sakellar and Santry C. Fuller have formed a new architectural firm in Tucson, Arizona, with offices located at 36 W. McCormich Street.

SCHOOL BONDS VOTED

Voters of the Kingsburg Elementary School District recently approved the issuance of $285,000 in school bonds for the construction of a new Grammar School building and additions to the Washington School.

W. D. Coates of Fresno is the architect.

NEW HOTEL BUILDING

The Moody's Hotels, Inc. of Oakland, have announced plans for construction of a new Hotel building at the corner of MacArthur Blvd. and Van Buren Avenue in Oakland at an estimated cost of $1,000,000.

The project consists of three buildings containing 100 rooms and baths, a swimming pool, Cabanas, and lounging facilities.

John C. Warnecke, Oakland, is the Architect.

FARMERS INSURANCE GROUP BUILD NEAR MERCED

The new $1,000,000 building development of the Farmers Insurance Group near Merced (California) will comprise a one-story building witrh division into four distinct sections.

In addition to the office building, the project will include twenty-four single and double apartments and approximately a dozen homes, all built for the exclusive use of the firm's personnel. Plans call for an additional twenty-four similar apartments at a later date.

Walter Wagner of Fresno is the Architect.

ARCHITECT SELECTED

The architectural firm of Swartz & Hyberg in Fresno (California) have been selected to design a new Library building for the County of Fresno. The new building will contain storage facilities and a children's library.

OFFICE BUILDING REMODEL

Architects Paul A. Ryan and John M. Lee of San Francisco have announced the remodeling of the Phelan Building in San Francisco at an estimated cost of $1,000,000.

Located on Market Street the Phelan Building is one of the city's larger office buildings built by capital derived from the gold rush days of 1849.

Construction will include a new lobby and the addition of a pent house atop the building.

BONDS VOTED

Electors of the Vallejo Unified School District have approved a school bond issue of $2,548,000 for the construction of new grammar and high school buildings in the City of Vallejo, California.

CALIFORNIA PRISON MEDICAL CENTER

The Division of Architecture for the State of California has announced the construction of a $6,000,000 prison medical center near the town of Vacaville in Solano county.

The building will be of reinforced concrete and steel construction.

SCHOOL BID REJECTED

Officials of the San Lorenzo Elementary School District, San Lorenzo (California) rejected bids for the construction of an 8 classroom building for the Washington Manor Grammar School at a cost of $128,-

PING YUEN HOUSING

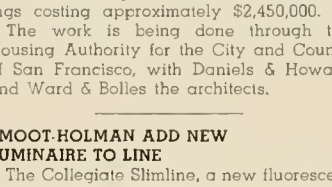
Drawings on the Ping Yuen Housing Project, San Francisco, have been completed and it is expected work on the three buildings which will comprise some 234 housing units will start in the very near future.

The project is located at Pacific and Grant Avenues, in the heart of San Francisco's famed China Town, and will consist of three six-story reinforced concrete buildings costing approximately $2,450,000.

The work is being done through the Housing Authority for the City and County of San Francisco, with Daniels & Howard and Ward & Bolles the architects.

SMOOT-HOLMAN ADD NEW LUMINAIRE TO LINE

The Collegiate Slimline, a new fluorescent luminaire, has been added to the lighting equipment line manufactured by Smoot-Holman Company of Inglewood, California.



Designed for economical, efficient operation in commercial and institutional installations, the new unit steps up light levels with the use of "Duraglo," a white synthetic enamel exterior finish that provides exceptionally high light reflection.

Louvers are 20 guage steel; overall length 96¼ in., width 13½ in. Complete data from manufacturer.

ARMY HOUSING PROJECT

The U. S. Air Force headquarters, Washington, D. C., have announced the awarding of a contract for the construction of 750 housing units at the Mather Air Force Base near Sacramento (California) at a cost of $6,000,000.

Structures will be of frame and stucco. The general contract is a joint venture of the Utah Construction Company, San Francisco; R. H. Hopkins Company of Dallas, Texas; and Henry C. Bock Company of Dallas. Contractors will own the buildings and operate them for a period of 75 years.

U. S. ARMY HOUSING PROJECT

The Corps of Engineers of the U. S. Army, has announced the conversion of sixteen buildings at Camp Stoneman, near Pittsburg (California), into a group of sixty-four family type quarters.

HOSPITAL BIDS REJECTED

The County of Humboldt (California) recently rejected a bid of $120,000 for the construction of a 16-bed addition to the Humboldt County Hospital at Eureka.

The contemplated construction included a two story, reinforced concrete and ste building with basement.

Ernest F. Winkler, San Francisco, is t architect.

STATE FUNDS ALLOCATED

The State of California recently allocat $2,000,000 for the construction of a ne Agricultural Building on the north side Capitol Avenue in Sacramento, accordi to an announcement by the Division Architecture.

STATE HOSPITAL SECURITY

The California Division of Architectu has named Architects Albert Criz and Pe R. Williams of Los Angeles as the architec for the design of a new maximum secur State Mental Hospital to be built at Atasc dero (California) at a cost of $8,500,000

Buildings will be of reinforced concr construction.

ARMY HOUSING PROJECT

The U. S. Army Air Force headquarte in Washington, D. C., recently announ the awarding of a contract for the constr tion of 439 Army residential units at t Castle Air Force Base at Merced, Californ.

The houses will be of frame constructi and will cost approximately $4,000,000.

NEW RESIDENTIAL PROJECT

The Netherby Construction Company Oakland are building 400 new houses the Richardson Village area of North Soc mento.

To be of frame and stucco constructi the houses will cost $6,000 each.

NEW GROUP OF APARTMENTS

Wm. E. Burnett of Fresno, has announc plans for the construction of a group apartment buildings comprising some apartments at an estimated cost of $5(000.

The buildings will be of two story, fra and stucco construction.

NEW DEVELOPMENTS IN GRANDSTAND BUILDING

New developments in grandstand c struction are recognized in the latest tion of the American Standard for Places Outdoor Assembly, recently published the American Standards Association.

Specifications for two new types of s ing arrangements are included as is clarification of width of aisles.

The standard was sponsored by the tional Fire Protection Association and Building Officials Conference of Amer

ANNOUNCES MANUFACTURE OF NEW DOOR PLATE

A simple device designed to replace old flat plush plate on a door with a cur plate which enables a person to "pull" door as well as "push" it has been nounced by Freda Koblick, San Franc designer and manufacturer.

Originally designed in decorative l nated plastic it also is made in clear pl with sanded texture back and in brus brass and brushed aluminum.

TO BUILD NEW COURT HOUSE

Plans are underway for the construc of a new Court House in Visalia for County of Tulare, at an estimated cos $1,250,000, according to the county B of Supervisors.

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From our cost records and experience, an advance estimate may be made from decidedly general information. Based on our knowledge of labor and material costs, gained on current jobs, such an estimate may be helpful in determining your construction program.

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David Horn & Marshall Mortland of Fresno, have been selected as the architects for the structure which will be a three story and basement building with a two story annex.

ELECTED BOARD CHAIRMAN PACIFIC CLAY PRODUCTS

George D. Clark, Jr., member of the Board of Directors of the Pacific Clay Products, has been elected to the Chairmanship of the Board.

Clark, a prominent San Francisco business executive, was formerly president of N. Clark & Sons, which became a part of Pacific Clay Products in 1945.

John D. Fredericks of Los Angeles was named President of the firm, succeeding the late Roy Lacy.

NEW GATE LATCH

A new top-gate latch has been announced by the Stanley Works of New Britain, Conn., known as Latch No. 1267K.

Made of wrought steel with brass spring and brass pivot, the lever-type latch opens easily by downward pressure on the broad surfaced handle, latches automatically. Applied to the top of gate, latch is furnished with both universal and surface strikes to accommodate varying designs in gate posts.

STRUCTURAL CLAY PRODUCTS SCHEDULE CONVENTION 1950

The 1950 Convention of the Structural Clay Products Industry will be held in Colorado Springs, Colorado, October 23-26, according to a recent announcement by W. J. Goodwin, Jr., President.

Highlight of the convention will be the first report to the industry by Robert B. Taylor, Director of the Structural Clay Products Research Foundation, which was recently formed to conduct a long-range, million and a quarter dollar research program.

An attendance of more than 500 is expected.

DOUGLAS FIR PLYWOOD ASSOCIATION ELECTS

Frost Snyder of Tacoma, Washington, was re-elected president of the Douglas Fir Plywood Association at the group's annual meeting recently.

Snyder in keynoting the convention's theme, declared "the future belongs to those who promote it," and pointed out that the plywood industry is producing an all time high volume of 45 million feet a week. Elected to serve as vice president was Victor Olson, president, Washington Veneer Company, Olympia. Charles M. Duecy was named secretary, and J. P. Simpson was elected treasurer.

BRANCH DEPARTMENT STORE

A contract has been let to MacDonald, Young & Nelson, Inc., general contractors, for the construction of a three story, reinforced concrete class 1-B, store building in the Stoneson Development project on 19th Avenue, San Francisco.

The building which will contain some 250,000 sq. ft. will cost $2,000,000.

Welton Becket of Los Angeles is the architect.

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WILBUR CLARK'S DESERT INN—Las Vegas, Nevada

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AUGUST 1950

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Book Reviews

★

COVER PICTURE:

DESERT INN
Las Vegas, Nevada

Desert spa viewed from glassed-in Sky Room Cocktail Lounge—the tropically landscaped grounds and Olympic-size swimming pool are seen in foreground. (See story on page 12.)

Photos by Vic Stein

ARCHITECT & ENGINEER is indexed regularly by ENGINEERING INDEX, INC.

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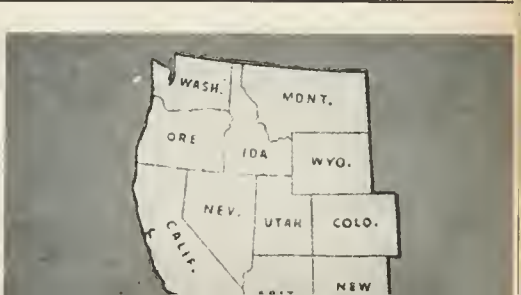


EDITORIAL NOTES

OUR FORESTS

For every soldier who went over-seas during World War II, 300 board feet of lumber were needed to pack his initial supplies, and 50 feet per month needed to maintain him. The construction of one Liberty Ship required 350,000 board feet; a PT boat used 28,000 board feet; and the flight deck of an escort carrier consumed 50,000,000 board feet.

Recognizing this extremely heavy drain on one of the nation's most vital natural resources a nation-wide campaign was undertaken to urge the public to protect the country's invaluable timber resources from carelessly caused fires.

At the war's end the problem of maintaining timber production at its maximum for much needed peacetime construction, and the protection of natural beauty and recreational areas remained an urgent factor. Despite a substantial reduction of forest fires some 30,000,000 acres of America's valuable timber land were being destroyed each year, and nine out of ten of these fires were man-caused.

The records show that since the end of the war, the average gross value of all timber products is approximately 15 to 20 billion dollars. Hundreds of industries such as furniture, boat building, rayon, transportation, and construction directly benefit from the campaign to protect the well-being of our forests. Timber resources contributed 6.3 billion dollars in wages and salaries to persons productively employed in 1946, while forest-based industries support two million workers and their families.

Since practically every phase of our national economy is affected by the lumber industry and year-in and year-out fire losses are crucial to preservation of this phase of the nation's natural resources, forest fire prevention is everybody's business.

VOLUNTARY REDUCTION IN HOUSING OUTPUT ASKED

President Truman has appealed to the home building industry of the United States to put into effect "a voluntary reduction" in the number of homes planned for the balance of the year.

The request comes at a time when the nation's home production has reached its highest rate in history, and brings to a sudden halt a record of individual enterprise accomplishment never before equalled.

Let's be sure that when the present "emergency" has passed Private enterprise will again have a free hand in the home construction field and will not be hampered with a lot of emergency-carry-over restrictions devised to aid and abet federal housing plans.

* * *

CALIFORNIA COUNCIL OF ARCHITECTS ANNUAL CONVENTION AT YOSEMITE

William Henry Roe, Convention Chairman, has issued a special invitation "To the Ladies" to attend and participate in the activities of the California Council of Architects annual convention, scheduled for September 28-30, at Yosemite National Park.

With the unqualified support of their wives, the Women's Architectural League, the fall weather in Yosemite Park, and a very active convention program committee, how can any Architect afford not to attend the all important annual gathering of his own professional group.

* * *

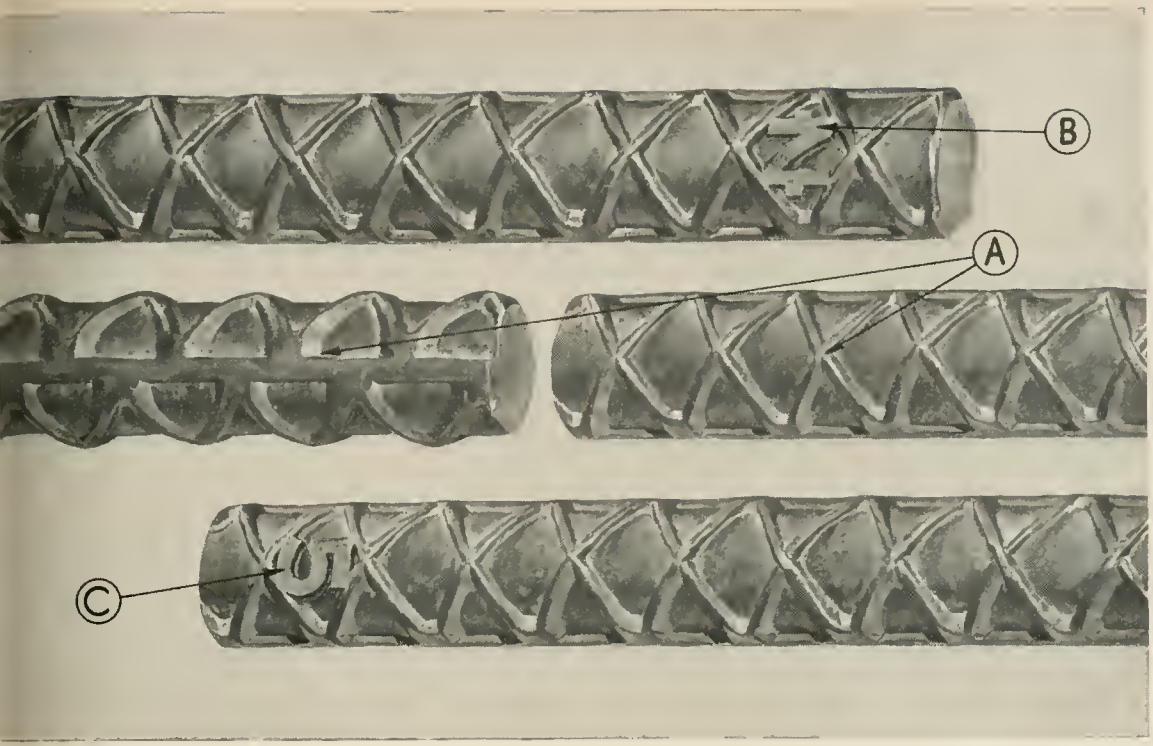
THE JOINT INFORMATION COMMITTEE IS A VERY WORTH WHILE PROJECT

Inauguration of the announced program by special committees representing The Northern California Chapter of The American Institute of Architects and the Northern California Chapter of The Producer's Council, Inc., to establish a Specification Code, is an activity worthy of support by every phase of the Construction Industry.

Objectives of this joint venture by two regional groups that are important and integral parts of two highly successful national organizations, is the clarification and simplification of specifications in relation to the Architectural Profession and the building materials manufacturers, dealers and distributors.

The rather broad three-point program given in the Joint Information Committee's original announcement is in itself a great step forward in bringing into a much needed economic use the primary requisites of a satisfactory relationship between the Architect and the building material manufacturing industry. Of even greater importance is the far-flung benefits which will accrue to the building owner, the contractor and the Construction Industry as a whole.

Ultimate results of The Joint Information Committee's activities is unpredictable. Obviously, however, all parties allied to the project will feel the favorable results of such a program. The fact that progressive Architects and Producer's Council members are exploring the possibilities of a plan for the betterment of the Construction Industry is beneficial.



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JOINT INFORMATION COMMITTEE

AMERICAN INSTITUTE OF ARCHITECTS -and- THE PRODUCERS COUNCIL, INC.

CLARIFICATION AND SIMPLIFICATION OF SPECIFICATIONS IS PROPOSED

The clarification and simplification of specifications is the primary objective of The Joint Information Committee representing the Northern California Chapter of The American Institute of Architects and the Northern California Chapter of The Producers' Council Inc.

Initially this comprehensive program is being established to determine the most practical and effective manner to develop a specifications code that will be acceptable to the Architectural profession and will at the same time serve as a maximum protection to the owner and construction industry as a whole against unreasonable substitution of materials.

Wendell R. Spackman, A.I.A. Architect of San Francisco, is chairman of the Architects Committee and Tait Smith of the Ceco Steel Products Corporation, San Francisco, is chairman of the Producers' Council Committee.

The Joint Information Committee is announcing a long range program of activities which will in their initial stages embody three major objectives.

Objective No. 1. Will be to define the placement of specific materials in the proper section of the Specifications Code. This project relates to services performed, jurisdictional restrictions, and trade customs.

Objective No. 2. Is designed to classify materials as to types and qualities—to reduce and prevent if possible, the substitution of inferior products.

Objective No. 3. Is to establish standards of installation and responsibility.

The Architectural Profession has expressed the opinion that if each of the industries within the Construction Industry could adopt a code of installation standards that would be approved and assigned a number by The American Institute of Architects, such a Code could be referred to by number in developing initial specifications. The use of a Code number in specifications would eliminate a great deal of time in the original use and thus reduce an expensive labor cost. A specifications Code would also assure the Architect that his client was being protected in materials used and installation.

Most common among the errors that occur in present specification procedure are wrong use of material, incorrect terminology and specification of obsolete products. These errors can readily be reduced and entirely eliminated under the proposed plan being developed by the Joint Committee.

In view of the tremendous importance of this movement within the Construction Industry and as a means of stimulating interest and support, Architect & Engineer magazine will provide as much information as possible to architects and building material manufacturers and dealers, and will release the Specification Codes through the pages of the magazine as they are approved by the A.I.A. --Producers' Council Joint Information Committee.

To inaugurate the program The Producer's Council Committee has already mailed a detailed questionnaire to its Bay Area members covering the proposals thus far outlined, and asking for information concerning their industry and recommendations for Specification Code subjects. The Committee urges that members complete the questionnaires as quickly as possible and return, together with suggestions and recommendations, to Chairman Tait Smith.

Viewing the value of this proposal of Specification Codes to the Architectural Profession it can be readily seen that this is a needed and intelligent approach to a problem which has existed too long. If considered from only the standpoint of time saved it is worthy of consideration. The added protection that it will afford the Architect in assurance of correct material use and codified installation is inestimable.

The program is being initiated for long and contiunous use. Any suggestions which can be made for the better pooling of ideas can be directed to the Architect & Engineer Magazine which will forward them to the Joint Committee.

NOTE: This news space is being contributed by ARCHITECT & ENGINEER Magazine to the JOINT INFORMATION COMMITTEE representing the Northern California Chapter of The American Institute of Architects and the Northern California Chapter of the Producer's Council, Inc., and is available to this Committee for the purpose of bringing to the attention of leaders within the Construction Industry various phases of the Architectural profession and building materials industry procedures for general consideration and comment. Your "ideas" and any suggestions for the better pooling of thoughts along these lines should be sent to "Joint Information Committee, c/o The Architect & Engineer, 68 Post Street, San Francisco," where they will be immediately forwarded to the proper committee members.

NEWS AND COMMENT ON ART

SAN FRANCISCO MUSEUM OF ART

The San Francisco Museum of Art, War Memorial Building, Civic Center, San Francisco, will exhibit a group of fifty-three Paintings by new Irish painters during the month of August. This is a six artist group exhibition showing the work of Thurloe Conolly, Gerard Dillon, Neville Johnson, Louis Le Brocquy, Colin Middletown, and Daniel O'Neill.

EXHIBITIONS: New Directions in Modern Painting: New Works by June Wayne, Adolfo Halty, Felipe Orlando and Jean Varda; Contemporary Fabrics and Domestic Lighting; new Photographs by Brett Weston; Syracuse National Ceramic Annual; Contemporary Irish Painters; Photographs by Wynne Bullock, Harry W. Hartman, and George M. Fekula, and House in Mexico by Anshen and Allen.

EVENTS: Children's Saturday Morning Classes will recess during August, but will be resumed the first Saturday in September, likewise the Sketch Club will be closed during August and will reopen in September. Docent's Gallery Tours, conducted by a special group of art-informed guides selected from the membership, will be conducted every Tuesday afternoon at 2:30 o'clock and on Sunday afternoon at 3:30 o'clock. Mrs. Henry H. Brigham, Jr., is in charge of the tours during August.

The Famous Film Series will be shown on Tuesday evenings at 8 o'clock, and the Know Your World Film Series will be presented each Saturday and Sunday afternoon at 2:30.

Anneliese Hoyer, Museum Librarian, and Robert M. Church, Curator of the Museum will present a group of Wednesday evening lecture-discussions on the subjects: August 2, "The House and Its Environment"; "New Directors in Modern Painting" August 9th; "The House and the Architect", August 16, and "Irish Painting", August 23rd.

SAN FRANCISCO ART ASSOCIATION

The closing date for entries to the Second Annual Decorative Arts Competition has been moved ahead to September 1. All designs must be received by the Registrar, San Francisco Museum of Art, on or before that date. A total of $2,375 in cash prizes is being offered by eight west coast manufacturers, and the exhibition of prize winners will take place in the Spring of 1951.

* * *

George Harris has been commissioned to paint a mural at the remodeled San Francisco Chamber of Commerce headquarters.

* * *

Robert B. Howard has some sculptured reliefs on the exterior of the new Berkeley High School Community theatre.

MACUMBA—bronze by the Brazilian artist Maria Martins, included in the Latin American collection of the San Francisco Museum of Art.

Whitney Atchley, California School of Fine Arts ceramics instructor, held a one-man show of his works at the Contemporary House in Dallas, Texas, recently.

CALIFORNIA SCHOOL OF FINE ARTS

Ernest Mundt, newly appointed Director of the California School of Fine Arts is the visiting professor of design at the University of Oregon this summer.

Registration for the Fall Term—starting September 11th—opened on August 15. The Art School will offer a three year course in each of the three departments of Painting, Sculpture, Graphic Arts; Design for Commerce and Industry; and Photography. Day and evening classes are being scheduled.

NATIONAL SCULPTURE EXHIBIT

The Sculpture Exhibition now being held in New York in observation of the 125th anniversary of the founding of the National Academy of Design includes a statue by Jacques Schnier, associate professor of sculptural design on the Berkeley campus of the University of California.

Schnier, a Fellow of the NSS, was one of sixty-five American sculptors invited to participate in the exhibition.

CITY OF PARIS

The City of Paris, San Francisco, is exhibiting its 4th Annual Summer Exhibition of Prints, featuring the work of twenty-eight eastern and western artists.

A special group of lithographs, monotypes, serigraphs and aquatints by Jean Charlot of Mexico is included in the display, as is Ceramic Sculpture by Mary Erckenbrack.

A special showing of French Modern Masters will be exhibited during September, according to an announcement by Beatrice Judd Ryan, Curator of the City of Paris' Rotunda Gallery which is located on the fourth floor.

PORTLAND ART MUSEUM

The Portland Art Museum, West Park and Madison streets, is currently showing Summer Exhibitions including the Museum's Seven Traveling Shows; French Landscape Before Impressionism, and Lithographs by George Kosanovic. The exhibitions will continue until August 31st.

Two fine examples of 17th Century English Silver, a caudle cup (1689) and a beaker (1658), have been presented to the Museum by W. H. Nunn in memory of his wife, Alice B. Nunn. Other new items include a series of fourteen documentary photographs of the Kamm house by James S. Rayner; a Japanese Scroll painting in reproduction; a pen and ink drawing "The Rider;" a small early water color "Cow Pony with Rider;" three ceramic pieces purchased from the First Northwest Ceramics Annual; a ceramic ram by Thomas Hardy; a gun metal glazed bowl by Lee R. Tillotson; and a decorated bowl by Henry and Peter Meloy.

Forty-two special exhibitions will be presented at the Museum during the 1950-51 season. Thirty-eight of these will be assembled at the Museum itself; four are traveling shows prepared elsewhere and brought to Portland as part of a circuit. Two exhibits will be prepared by the Museum and sent on exhibition tour—sculpture of Jacques Lipchitz, and the C. S. Price Memorial Exhibition.

M. H. de YOUNG MEMORIAL MUSEUM

Walter Heil, director of the M. H. de Young Memorial Museum in Golden Gate Park, San Francisco, announces the following events and special exhibitions for the month of August:

EXHIBITIONS: The treasures from the Vienna Museums will continue through August and September. Because of the great public demand the Museum hours have been lengthened and weekdays will remain open from 10 a.m. to 5 p.m.—Saturdays and Sundays the hours will be from 10 a.m. to 7 p.m. The masterpieces of painting together with ancient ivories, impressive arms and armor, and massive tapestries, adds up to one of the greatest exhibitions to come to this country. PERMANENT EXHIBITIONS include those of the Fine and Applied Arts, and Historical Collections.

SPECIAL EVENTS. Special lectures will be given on the Vienna Treasures daily at 2:30 p.m. Landscape sketching in the park will continue through the summer on Wednesday and Saturday afternoons at 1:30. Children's classes will be held on Wednesday and Thursday, 10 a.m. to 11:30 a.m.

STRUCTURAL AND PATTERN BONDS IN BRICK AND TILE MASONRY

The Structural Clay Products Institute announces that the word "Bond," as used in connection with brick and tile masonry, may have three meanings:

1. **Structural Bond**—the method by which individual units are overlapped, either parallel or perpendicular to the face of the wall;

2. **Pattern Bond** -the pattern formed by the units and the mortar joints in the exposed face of the wall which may be a result: and

3. **Mortar Bond**—the adhesion of the mortar to the units or to steel reinforcing.

EITSCHMIDT & CHARLES O. MATCHAM, Architects

DOWN-TOWN LOS ANGELES HELI-PORT TO AID AIR INDUSTRY

Another step forward in aviation facilities in Los Angeles was revealed recently with the announcement that Southern California's first roof-top passenger heliport will soon be constructed high above the central downtown Los Angeles area atop the twelve story Pacific Mutual Life Building at Sixth and Grand in the heart of Los Angeles' "Transportation Row".

Construction of the centrally located helicopter passenger terminal, to be known as "The Pacific Mutual Downtown Heliport", will be financed by Pacific Mutual Life Insurance Company and leased, together with supplementary passenger facilities, to Los Angeles Airways, Inc., who will be the operating company.

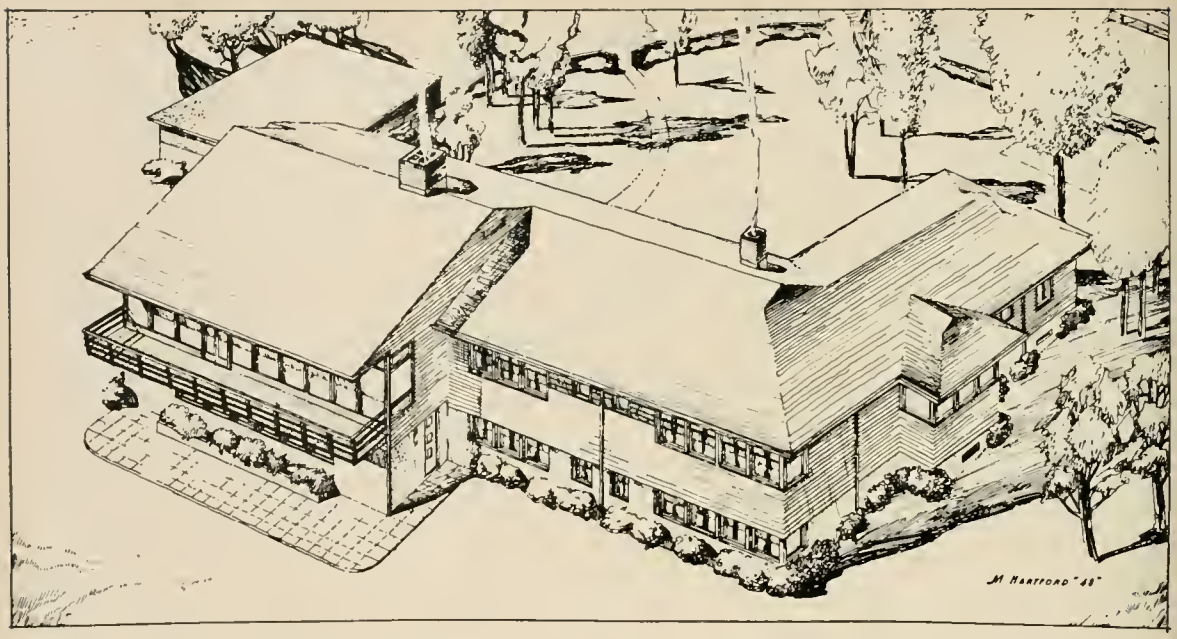
Plans for the new heliport will be executed by Earl Heitschmidt and Charles O. Matcham, A.I.A. Architects, and will include a luxurious top-story passenger lounge reached by express elevator from the street level and connecting directly with the upper helicopter landing area by escalators. Air passengers will be able to step into a waiting passenger helicopter and be at the Los Angeles International Airport just six minutes later. Connections will be timed for all major airline schedules.

The Pacific Mutual Heliport is the first in what will eventually be a web of passenger helicopter ports throughout southern California.

Currently on the aviation industry's drafting boards are passenger helicopter adaptations of the Sikorsky 55, which is the big brother of the present type 51' with which Los Angeles Airways has been quite successfully flying the local mail from numerous southern California communities to the International Airport for more than two years. The new passenger helicopters are expected to seat from twelve to twenty passengers with ease, and will provide a wholly new concept of fast, convenient and comfortable local air tranport. Capable of making a normal landing even in the event of complete engine failure and able to hover motionless in the air or proceed at any speed up to an estimated 125 miles per hour, the future multi-motor passenger helicopters, equipped with the latest devices for instrument navigation and operation, will constitute the safest means of air transport ever developed.

Looking toward ultimate expansion of helicopter passenger service to encompass all of southern California within a 180-mile radius of downtown Los Angeles, Los Angeles Airways has worked closely with others engaged in the development of passenger helicopters, and will furnish a multitude of facts and figures drawn from its own extensive day and night operating experience over the Los Angeles area.

Opening of the Pacific Mutual Downtown Heliport is planned to coincide with the arrival of Los Angeles Airways' new multi-motor passenger helicopters in sufficient quantity to maintain all contemplated schedules. Technical supervision over construction and operation of the revolutionary new roof-top helicopter landing port will be subject to jurisdiction of the CAA and CAB.



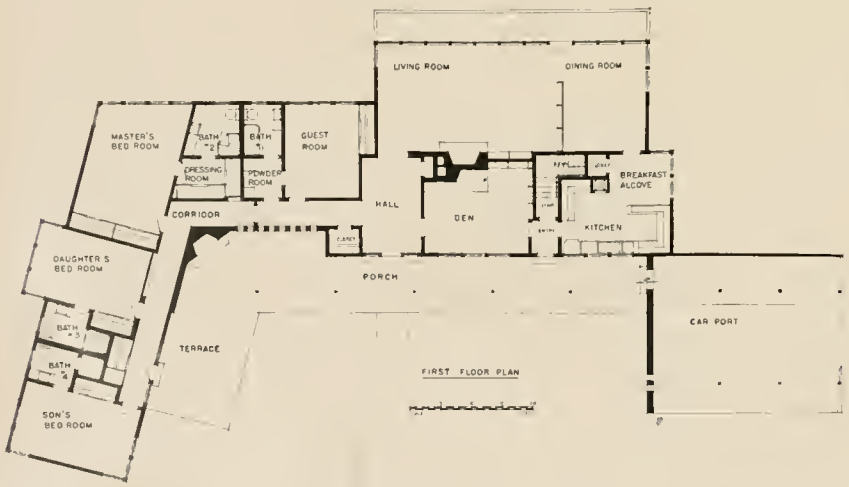
A Modern Country Home

PORTLAND, OREGON

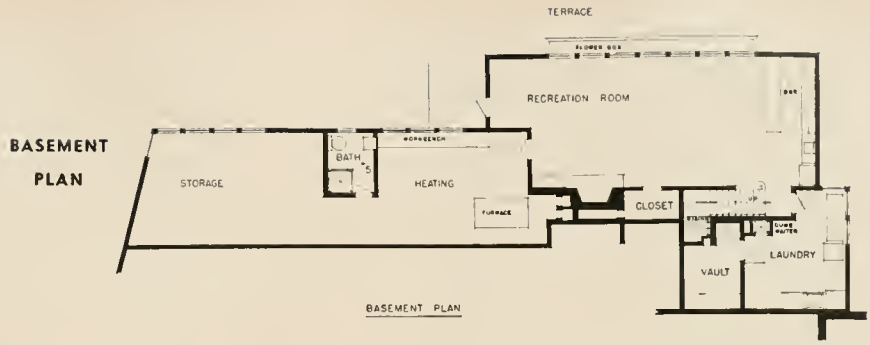
MORGAN H. HARTFORD, A.I.A., Architect

This home has been designed to suit a family of mother, father, son and daughter. Quarters for domestics are nearby in an existing farmhouse. The building site is a gently rolling farmland with expansive view Living Room side of house. The house is situated in a grove of trees which will shade the upper level terrace and approach to the house. The sloping site makes possible a daylight basement, and the panoramic view calls for a view balcony accessible from Living and Dining Rooms. Bed Room wing is set at an angle to favor view and to save trees.

Provision is made for three Bed Rooms, Guest Room and Den. Five Bath Rooms are provided. Kitchen is equipped with electric dumbwaiter to serve Recreation Room in Basement. A breakfast



FIRST FLOOR PLAN



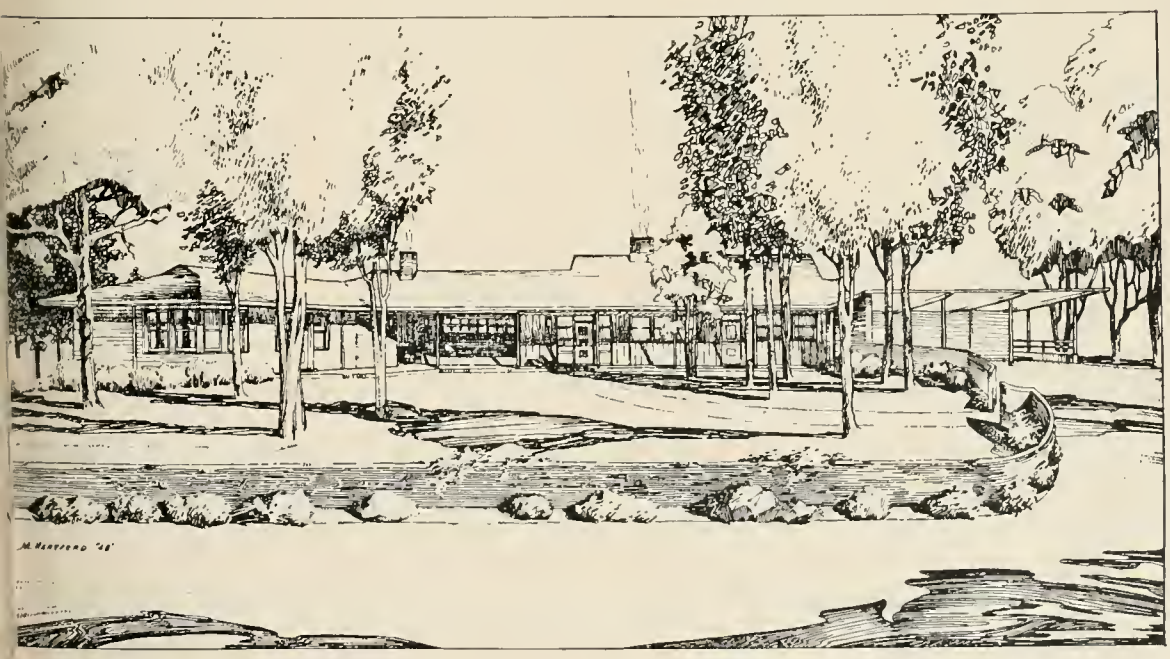
Alcove is provided in Kitchen. Kitchen is located so that refreshments may be conveniently served in upper terrace. Upper terrace is roofed and features an outside fireplace. A covered passage extends from Carport to Kitchen and Main Entry. Bed Room Wing has special exit so that son and daughter can get to and from nearby tennis court without going through main part of house. The Corridor is lighted by glass block and windows.

Living and Dining Room features floor to ceiling glass view windows. Ample storage is provided in wardrobe, coat, linen, cedar and utility closets of the first floor with additional storage space in basement. The house contains four fireplaces. Room interiors are finished in natural woods, including Kitchen, which is done in Birch.

The Basement contains a Recreation Room with fireplace and bar. Also included are provisions for modern automatic laundry, cold freezer, vault, workshop, general storage and hot water oil fired radiant heating apparatus. Radiant coils are embedded in the Basement floor and ceiling of first floor. Stairway connects Recreation Room direct to upper level terrace so that guests can go back and forth without passing through main rooms of the house.

Recessed modern lighting, intercommunication system and yard floodlighting are included. Bath Room, Den and Recreation Rooms are equipped with Germicidal Lamps. Sewage disposal is by septic tank system.

The exterior of the building is composed of an Aluminum Lock Shingle Roof. Clear cedar siding for walls, split tile veneer for walls of Carport and wing walls of exterior fireplace and garden walls. Boards and Batten are used adjacent to Main Entrance. Basement walls are concrete.



LAS VEGAS · NEVADA

Painted Desert Room and separated by accordion folding doors, is the Cactus Room serving meals throughout the day. Offering distinct color contrast to the Painted Desert Room, the walls in the Cactus room are slate grey, decorated with Cacti line murals. Picture windows of ceiling height along one entire wall overlook the garden, terraces, pool, and in the distance, the Kachina Doll Ranch.

Lessman designed the Kachina Doll Ranch for the supervised care of children of guests at Wilbur Clark's Desert Inn. The small house, complete in every detail, with child-sized scaled furniture, has a pink bathroom for little girls and a blue one for little boys. Walls are painted in sky blue with murals telling the story of the Kachina dolls, which are tiny replicas of Hopi Indian Gods, used by the Indians for many centuries to illustrate legends of Indian Gods of the elements.

Top-side, in the main building, is the Sky Room Cocktail Lounge. Glass enclosed on three sides, this lounge is reminiscent of an airport lookout tower. The surrounding desert, mountains, and far-reaching tropically landscaped grounds are clearly visible at all times. At night tiny electric stars twinkling in the ceiling of the lounge make it seem one with the surrounding desert. An oval bar, upholstered in stardust gold plastic, complements star-motif upholstered lounge chairs and sky blue painted walls. A dramatic, hand loomed rug in black and white offered staccato accent.

Just below the Sky Room Cocktail Lounge are the private executive ofices of Wilbur Clark. Fun and work operations at the spa are clearly visible for Clark through floor to ceiling glassed-in walls on two sides. A small private terrace, bar, dressing room, shower, large wardrobe, free form desk, and numerous large swivel chairs offer comfort. The rug is handloomed in metallic gold, silver and lime green on an off-white background. A large life-size nude, done in the manner of old-time "saloon art," dominates the alcove bar. The over-all effect is one of a sumptuous Hollywood setting.

The subtle color shadings of the surrounding desert was used throughout all rooms at the Inn. Many walls and corridors are decorated with a pin-point, multi-colored surface pattern incorporating all of the colors of the wasteland.

Designed for practicality, walls may be "spot-cleaned" and restored wherever soil or damage

(See Page 43)

STYLED FOR PLEASURE . . . cleanly functional is the decor of the interiors where simulated grass-waven caverings as seen in this suite highlight a tropical theme used in many of the 300 rooms.

MAGNIN'S
New Store
San Mateo, California

GRUEN and KRUMMECK
Victor Gruen, A.I.A., Architect
R. L. Baumfeld, Associate

By DAVID H. ROSS

Joseph Magnin's new store in San Mateo features spaciousness and subdued elegance in its design. In an area of approximately 11,000 square feet, the architects Gruen and Krummeck have created a feeling of spaciousness by holding all partitions to a height of nine feet except those around the dress salon which go to eleven feet six inches. The smartness and sophistication of the styling features interesting colors and textures without sacraficing dignity and a feeling of quality. The plan, which is completely functional in character, adds to the effectiveness and efficiency of the operation.

As in the other stores which Gruen and Krummeck have executed for Joseph Magnin's in San Francisco, Oakland, Sacramento, Palo Alto, and

STORE ENTRANCE

All Photos by Roger Sturtevant

RICHNESS of the green Verde antique morble and details of street entrance set choracter of the store. The initiols above the entry are back lighted for evening and night effect.

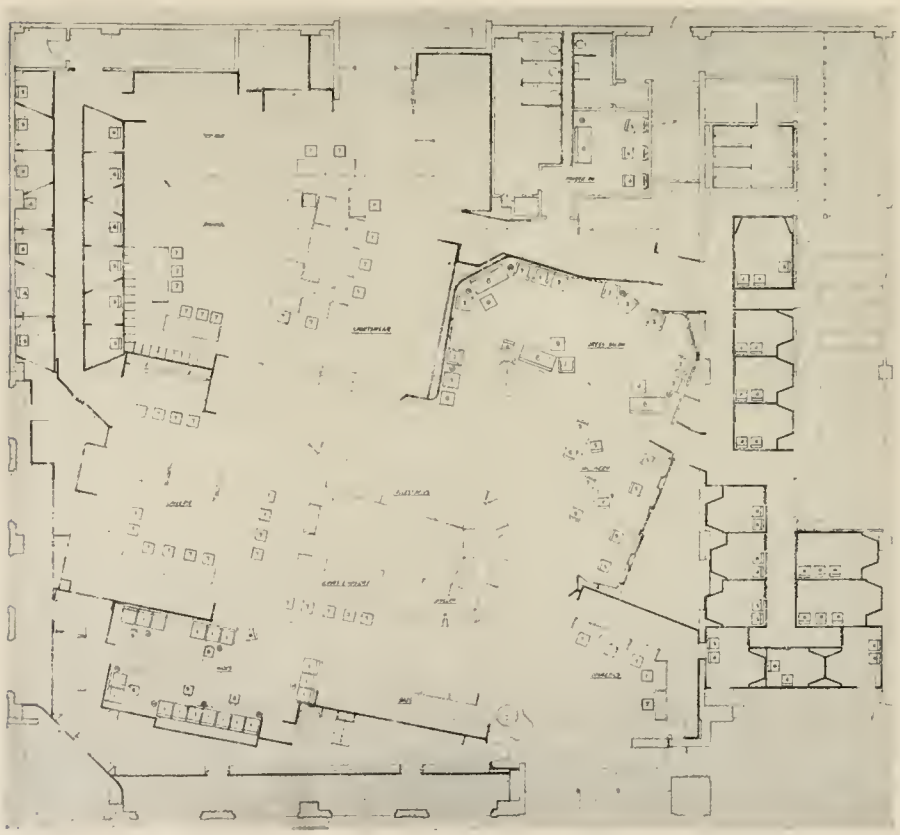
Reno, the San Mateo store is designed to generate a high volume of sales in high fashion settings. That these two factors are not incompatible, is witnessed by the success of the other stores completed by Gruen and Krummeck for this firm. Yet, the San Mateo store does represent a break with previous practice through being laid out on a single floor. The earlier stores have sales areas on mezzanine and upper floors.

Much less stock is in view than in more conventional stores, the feeling of subdued elegance is carried much further than is customary in stores having a comparable volume of sales, and the relation of stock and fitting room areas to the selling areas is such, as to actually increase the effectiveness of the sales area each is designed to serve.

The store is provided with two entrances of almost equal importance. Side walls of the street entrance are faced with brick split romans in a deep rose color—which accent the richness of the green, heavily veined, Verde Antique marble used on the face of the building. Glass doors framed in aluminum carry large aluminum push plates, on which the store initials appear in raised letters. The doors are flanked on each side by large clear glass partitions extending from floor to ceiling which provide a generous view of the store from the street. Interior and exterior wood planting boxes set on the floor, rather than being sunk into the floor, strike a different note from conventional treatment and add to the richness of the entry. Directly ahead of the doors, on the inside, are brightly lighted cosmetic cases and counters, in an L shaped arrangement to deflect incoming traffic to the main part of the store, which add their color and jewel-like luster to the entrance.

The parking lot entrance opens directly into the Sportswear Department. But again, color and sparkle have been added by locating an island fixture directly ahead of the doors. This fixture is dramatically lighted and above it, projected from the low ceiling area of the entry, is a wood canopy, the underside of which is brightly lighted.

The flow of customer traffic within the store, so important in an operation of this type, is carefully controlled through the location and arrangement of the various departments. A constant change of pace, calculated to heighten and sustain interest, is provided by their arrangement and decor. Wrap



FLOOR PLAN

INCANDESCENT

Lighting Fixtures

that are attractively suspended from the ceiling, furnish an ample amount of store lighting and add a feeling of elegance to the Solon area.

These fixtures were designed by the Architect.

ISLAND FIXTURES are located directly ahead of the doors and add color and sparkle to the parking lot entrance.

MAGNIN'S—San Mateo . . .

A constant change of pace, calculated to heighten and sustain customer interest, has been employed throughout the sales area.

stations, unobtrusively but conveniently located at various points, facilitate the handling of sales, promote good will by eliminating delays, and add to the efficiency of the operation. Fitting rooms, stock, and non-selling areas are located around the perimeter of the floor immediately adjacent to the departments each is designed to serve.

Lighting throughout the store is by a combination of fluorescent fixtures in cornices and an overall pattern of incandescent ceiling fixtures. Incandescent hanging fixtures, designed by the architect, with planting troughs and perforated metal reflectors strike a sophisticated note and add a feeling of elegance to the Salon area. Considerable thought and attention to detailed effect by the architects has resulted in the use of light to create "atmosphere" or character in the different departments as well as to provide a good over-all level of illumination.

The store has been enthusiastically received by both the operators and community in which it is located. Since its opening, it has been visited by merchants from different parts of the country who have, without exception, been lavish in their praise of the architects' merchandising and design.

NEW HOTEL BUILDING

The R. P. Etienne Properties Company of San Mateo, have announced plans for the construction of a new Hotel Building in Burlingame.

The building will contain 128 rooms and baths, restaurant, cocktail lounge, and a swimming pool and will be of one and two story reinforced concrete and frame and stucco construction.

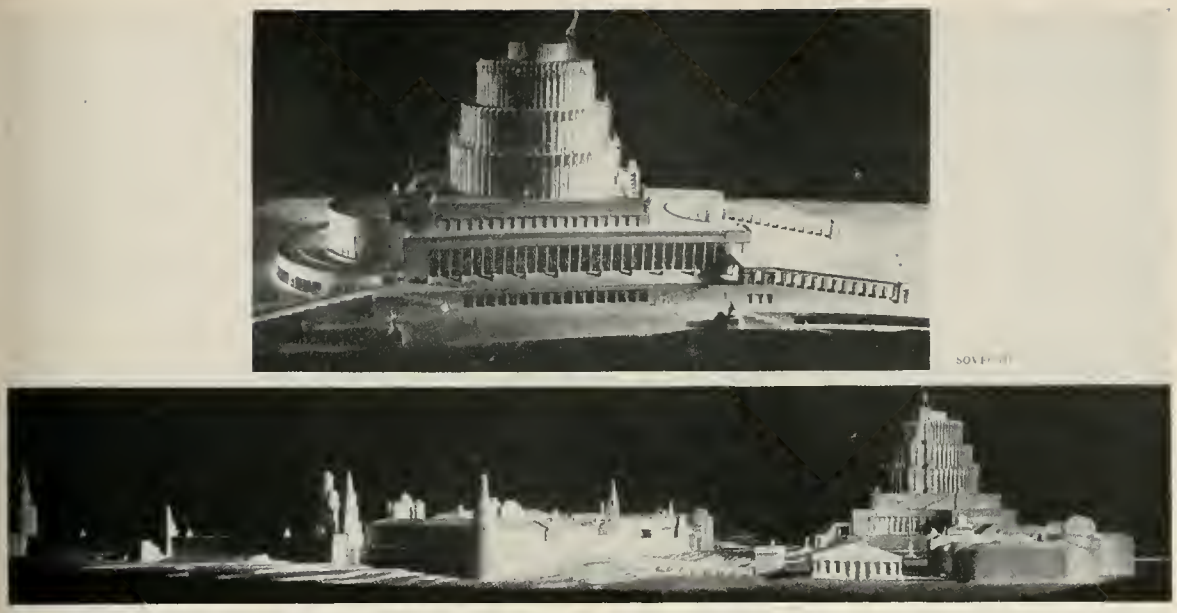
Frank W. Green of Glendale is the architect. Cost of the project will exceed $750,000.

W. C. Tait Company, San Francisco, are the contractors.

NEW GRAMMAR SCHOOL

The San Rafael Board of Education recently announced plans for the construction of a new Grammar School at Santa Venetia (Marin County), comprising 9-classrooms, kindergarten, and administration building at an estimated cost of $200,000.

Kirby & Mulvin, San Francisco, are the architects.



The Palace of the Soviets in Moscow, Boris M. Iofan, architect; and below, its relation to the Kremlin.

THE ARCHITECTURAL NEW LOOK!

By ALFRED KUHN, Architect

"Shall he among the ancients rise to fame—
or sink with Moderns to contempt and shame."
—Francis

In the catastrophic aftermath of two world wars in one generation and influenced by the mass destruction of all the finer things created by Man, "to make the world a better place in which to live"—to quote an old wornout cliche—all fields of creative endeavor were invaded by an epidemic of Revolutionary theories, screwball inspirations, crackpot formulas and "isms" a radical departure from all previous established forms of beauty, character and design.

HOSPITAL—Cilchy, France

Out of this hodge-podge of conflicting emotional ideas and rebellion against old established forms of creative work in Europe at that time, it's exponents created a new style, that found it's first expression in Architecture and the allied Arts. As it did not recall or resemble anything that had been created heretofore in this field, to provide a name, all the various "isms" finally simmered down to the general term "Modern". (Lat. modernus from

ARCHITECTURAL NEW LOOK . . .

The Prudential Building in Los Angeles

"Dick" Whittington

mode, just now.) Webster: New and common; not having the dignity or gravity of what is of long standing; trite; vulgar. (Obs.)

Applied to architectural design and composition, it had original inception and earliest development in Germany in the late twenties; later in France, followed by other countries in Europe after the first world war and continued in that postwar period. This architectural world new look, that was gradually developed over a period of years, varied in expression depending on geographical location, individual interpretation, creative ability and mental state of it's devotees, and was often carried to extremes; stressing horizontal lines, or vertical, usually a combination of both, in all types of buildings.

In France, all architectural tradition and beauty of the past was forgotten in the "form follows function" theory that created the factory-like exterior of the huge concrete Beajon Hospital building at Clichy, where the fenestration, extending from floor to ceiling, provides a bleak outlook for it's patients from the four wings of the structure with it's severe stressed vertical lines.

The French definition of a modern school, is furnished in the depressive three story creation, where the exterior developed into two floors of alternating strips of glass and wall in the barren facade; the fenestration extending continuously from room to room in harsh horizontal lines the full length of the structure, interrupted only by the width of the partition, terminating with a blank wall of the end class-room. The ground floor area is practically open and the entire super structure

Modern Normol School in Mexico

is supported on exposed colums. This architectural bar-sinister monstrosity no doubt is strictly functional—but will provide no normal example of school architecture of any educational value, or pleasant memories of "school days" in this creation, constructed at Villejuif.

Modern expression, a la Russ, is exemplified by the gruesome group of Government buildings in Minsk, White Russia, in the grotesque combination of vertical and horizontal development; the lack of scale, proportion and brutal exterior. The last word in the modern Russian conception, is the radical composition of the Palace of the Soviets in Moscow, with it's huge base structure of irregular formation, concave and convex, terminating with four circular set-back units piled one on the other—a horizontal conglomeration of Russian Renaissance, surmounted with the inevetable statue of gigantic proportion overlooking the adjacent Kremlin.

Any resemblance to architectural form was merely co-incidental in these examples of modern work in Europe, published in the American Architecture, created in Athens and Rome, and the Renaissance periods that stemmed from this source, that heretofore had furnished inspiration for architectural expression, reached an all time low. Glorified by the Greeks and Romans, it was sterilized, brutalized and standardized and kicked around by the Moderns.

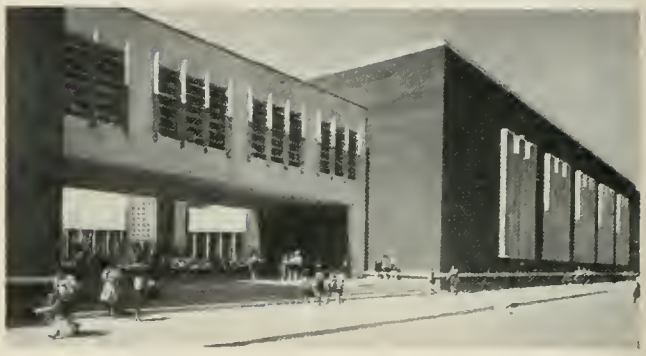
The same decadent work that was created in warped minds influenced by the wreckage and devestation in the depressive environment of the post-war periods in Europe; that discarded all established fundemental principals; that flaunted all former concepts of architectural design and aesthetics; found expression in the so-called Modern style by it's deciples, and was later adopted by it's converts in the Americas. It is conspicous by it's incongraus often brutal composition; crudeness; repitition; stark ugly lines and lack of beauty, and leaves all admirers of good architecture aghast by the austerity that is being created by the exponents of the modern school in all types of buildings today. They have apparently gone all out, not to make the world a better, but an uglier place in which to live.

Corrugated iron laid vertically may be an appropriate wall covering for a one-story steel frame Boiler House, from a utilitarian standpoint, however, the same idea applied to the exterior of a four-story Department store on a corner, any corner, with or without fenestration on each street front, plus fire-escape balconies, even though the corrugated metal were aluminum, enameled or gold plated, will lack beauty and provide little architectural character, if any, in such modern design of a department store.

In the recent modern Caribe-Hilton ten story hotel in San Juan, Puerto Rico, the "form follows function" theory is expressed on the exterior of structure regardless of its appearance. Its room length of glass set on an angle from floor to ceiling, furnished an out-door porch area to each room, but the exposed girder and wall column, provides

DEPARTMENT STORE . . . Oakland, California

A MEXICAN NORMAL SCHOOL



the last word in harsh vertical and horizontal lines and austerity. The curtain wall was eliminated entirely except the inevitable barren wall interruption extended upward for the huge name.

Again we find the same principal only to a greater extent in the modern conception of an office building. Formerly, according to rational precepts in such construction, against fire or other hazards, the steel frame of a structure was enclosed with a curtain wall; fenestration, spandrels of various type, material, and detail; an architectural cloak to cover the structural frame. According to modern expression and principles, in a recent office building in Portland, Ore., curtain walls of both street fronts were omitted entirely. The entire bay enclosed with glass and metal, no doubt will provide an abundance of light, and the criss-cross effect of the exposed wall column and beam, in the form follows function ideology, will furnish visual proof that they are holding up the building, but the emphasized lines provide little beauty from an aesthetic viewpoint.

One fantastic idea and radical departure that is dreamed up in one example is copied to the other in modern work by its devotees, but they often miss the bus entirely in the switch when adapted to other conditions and surroundings. What looks good in Puerta Rico does not look so good on Sutter street in San Francisco when the same identical idea is incorporated on the rear of an eight story structure. No doubt it is utilitarian, but in appearence it recalls the open rear of a tenament house, and fire escapes with outlook over roof tops, instead of a tropical view from the porch of a hotel room in San Juan, Puerto Rico.

The twenty-one story Universal Pictures Building in New York, is an example of the horizontal modern emphasis carried to extremes. In a two story building, such as perhaps a school, it is bad enough and monotonous, but in twelve stories plus three set-back units of three stories each, it covers a lot of territory. Here again we have the old and reliable standby fenestration without which no example of modern work would be complete, horizontal alternating strips of glass and curtain wall; carried around, the full height of the structure,

MODERN MOVIE THEATRE . . . Recently completed in Los Angeles

with even glass intersection at the corner of the building. "Form follows function" theory is meaningless in this example as it expresses no structural stability. Without wall column emphasis interruption, the entire building apparently is resting on glass and to the layman would appear structurally unsound, i.e. visually.

Those of the old school who learned something about architectural composition the hard way, designing a set-back sky-scraper was not so simple, and during its evolution when the cornice had to be omitted, and detail modified, it still retained structural and architectural character. They did not go overboard entirely, as in the modern conception that thinks in terms of glass only, and of appearance—you can't get much inspiration designing a building with alternating horizontal strips of glass and wall, or exposed wall column and beam filled in with glass and metal, with two street fronts.

This so-called modern architectural new look that is being inflicted on the public in an effort to provide something up to date is old stuff. In many respects it is just an offshoot of our last war construction period, when due to the time element that was involved, architectural aesthetics were reduced to the vanishing point. The resultant barren exterior that this developed, consisted primarily of long uninterrupted horizontal strips of steel sash that passed outside of the supporting columns, and strips of concrete or corrugated iron, or blank walls where overhead or artificial daylight was required. They were only for the time being and not for permanency and were excusable; they were designed by engineers.

That demoralizing and deplorable influence, and the Signs of our Times, are reflected in the current trend of postwar construction. Aesthetic values and precepts that represent the highest period of our architectural progress during the past fifty years, are now being brutalized or ruthlessly destroyed. Architecture, as exemplified in our many fine civic structures, comparatively speaking, is taking a nose-dive; indulging in a somersault, but backwards; reverting to primitive form, bleak barren walls, with an Americanized version of the new Modern expression that often leaves one cold—with its form follows function ideology, that is not always followed. Structures reduced to factory-type exteriors can only resemble factories, and not commercial and apartment buildings or hospitals or schools.

The austerity and lack of any architectural character that was developed; the barren factory-type monotonous exteriors; that were condoned in all types of buildings during the war; is now being continued with even greater abandon to-day. Any degree of beauty; exterior refinements; formerly considered essential in any structure and for which a portion of its cost was provided, is now completely sacrificed for economy or urgency—to add another story to a structure—or provide an additional building to a group—that are identically alike as to their standardized exteriors—erected on a quantity rather than a quality basis, with depressive repetition.

Based on present examples of modern work created so far, from a standpoint of design and composition, its exterior limitations have already resulted in endless repetition of a few stereotyped forms; uninterrupted industrial-type or cock-eyed fenestration in weird formation; barren walls, or scoriated lines laid off in squares, or jointed in a similar form, depending on the outer material, stone, marble or cement plaster, or tile etc. Columns are sans cap and base, and free standing piers or pilasters ditto; mouldings, if any are brutalized to crudest form, or reduced to a mere suggestion in a single line recess or flat band. Nothing of any beauty or refinement has been created to replace that which it seeks to destroy in previously established architectural forms. Foot loose and fancy free—ridiculous, bad, or terrible its modern

Apartment House, Chicago

Architects: Toro, Ferrer & Torregrosso. Interiors by Worner-Leeds

expression, or at least to say its deciples, who call it the International Style, assuming it has universal approval.

The so-called modern trend, American version, now being developed, and the extensively advertised and glamourized "discard the old for the new" campaign being directed to the gullible, is merely another movement to render all our previous concepts in all type and branches of creative work null and void; obsolete. To wreck, tear down and destroy, like the prophets of old, all our former established traditions in Architecture and the allied arts; sculpture and the fine Arts, and recreate them according to Modern interpretation by the intellegencia, with fantastic creations and brutal conversions, depending on the creative ability and frame of mind of its disciples.

When applied to the facade of any structure, its radical expression, in effect, reduces all adjacent values by its nonconformity to existing conventional architecture. Notwithstanding this fact, it can not be prevented where it is encouraged by its devotees and permitted under private ownership.

It should not, however, be sanctioned in public buildings, as it depreciates all architectural values that have heretofore been created, to the lay mind. Especially where architectural values have been previously established in a group of public structures of which it may form a part, since one is not complimentary to the other.

A parallel in that respect is furnished in the re-

(See Page 35)

WINDOWS or GLASS WALLS

By JOHN HANCOCK CALLENDER, Architectural Consultant, Southwest Research Institute, San Antonio, Texas

The definite trend toward "picture windows" and large glass areas in American home design is not something that can be evaluated on a purely economic basis. Practically everyone is enthusiastic about big windows and it thus becomes an emotional factor that cannot be considered merely in dollars and cents, according to the Southwest Institute's Revere Quality House Division.

John Hancock Callender, architectural consultant for the Institute, believes that the size of windows is one of the most conspicuous differences between houses of traditional design and those of contemporary design. In the typical small house of Cape Cod or other traditional ancestry, windows are small and usually placed symetrically while in some contemporary houses windows may occupy the entire wall from floor to ceiling. An expanse of glass like this can no longer be properly termed a window, so the phrase "window-wall" or "glass-wall" has come into use.

Not many people have had an opportunity to visit a house of real contemporary design, but those who have are usually enthusiastic about the big "window-walls" that open on secluded gardens or terraces. They appreciate the large glass areas, but are somewhat worried as to their practicality. A prospective home buyer justifiably wonders about the cost, and whether the house can be heated comfortably and economically with so large an expanse of glass. Unfortunately they have not always been able to get clear and correct answers to these questions.

Glass, while far less precious that it was centuries ago, is still costly. Glass walls can easily cost more than conventional wall construction and large sheets of plate glass are more expensive than ordinary windows. And if special sealed double glass is used, the cost is still further increased.

However, glass manufacturers are pushing the use of double-glazed windows that have a high degree of builder acceptance. These multiple windows are made up of units approximately two feet high by four feet wide consisting of top sealed sheets of flat glass.

To the cost of the "glass-wall" must be added the cost of the shades, curtains, and draperies required for controlling light and privacy, and these items may cost almost as much as the glass itself. Windows are frequently more expensive than walls not only in first cost, but also in maintenance. Glass as well as shades and draperies require frequent cleaning and occasional replacement.

In the heating season, more than four times as much heat is lost through a window as through an uninsulated wall. When the walls are insulated the loss through the windows may be ten times that through the walls. These ratios may be cut in half, however, by the use of special double glass.

On the credit side of the ledger is the natural light obtained from windows which often eliminates the cost of artificial light for daytime use. Also on the credit side is the sun heat that comes through the windows during winter.

In the case of an entire **south** wall of glass, sufficient heat from the sun may be admitted to keep the room comfortable without resort to artificial heat even when the outside temperature is at zero. It is obvious that such a design would result in a considerable savings in fuel costs. Unfortunately the sun does not always shine—even in the daytime—and when the sun is not shining the large glass area loses heat. The result is that a house designed this way needs heat in large quantities at specific times and may require a larger heating plant than a conventional house, although the annual fuel bill may be considerably lower.

Since glass is a trap for heat from the sun, the problem in the summertime is keeping the sun out. Nature helps us on this point for a modest roof overhang over a south window will cut off almost all of the rays of the high summer sun and not interfere with the low winter sun.

West windows are a big problem as far as summer sun is concerned. By afternoon the sun is too low to be intercepted by a roof overhang.

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Perry B. Johanson, President; Paul Thiry, 1st Vice-President; Thomas F. Hargis, Jr., 2nd Vice-President; John S. Detlie, Secretary; Lawrence G. Waldron, Treasurer. Office 714 American Bldg., Seattle 4.

Tacoma Society:
E. N. Dugan, President; P. G. Ball, Vice-President; Lyle Swedberg, Secretary-Treasurer.

Hawaii Chapter:
James C. Simms, President; Alfred Preis, Secretary, 1507 Kapiolani Blvd., Honolulu, T. H.

CALIFORNIA COUNCIL OF ARCHITECTS

Extensive plans are being made for the annual convention of the California Council of Architects to be held at Yosemite, September 28-30, according to William H. Rowe, convention chairman.

In addition to a comprehensive program of technical and business discussions relating to the architectural profession, every effort is being made to entertain the delegates and their wives, and guests, with the entertainment highlighted by a dance on Friday evening September 29th, honoring Mr. and Mrs. Frank V. Mayo.

As in the past, an important part of the program will be sponsored by the Women's Architectural League. Reservations should be sent in immediately to your Chapter secretary or to Chairman Rowe.

WASHINGTON STATE CHAPTER

Perry B. Johanson was elected President of the Washington State Chapter of the A.I.A. at the Chapter's annual meeting.

Also named as officers and directors for the ensuing year were: Paul Thiry, 1st vice-president; Thomas F. Hargis, Jr., 2nd vice-president; John S. Detlie, Secretary, and Lawrence G. Waldron, Treasurer. Robert F. McClelland, John Paul Jones

and Bliss Moore, Jr., were elected to serve as members of the Executive Committee.

NEVADA STATE CHAPTER

George L. F. O'Brien of Reno has been elected President of the Nevada State Chapter of the A.I.A.

Aloysius McDonald of Las Vegas has been named vice-president; Graham Erskine of Reno, Secretary, and Edward S. Parsons, Reno, Treasurer.

Elected on the Board of Directors were: George F. F. O'Brien, Reno; Aloysius McDonald, Las Vegas; E. Keith Lockard, Reno; F. J. DeLongchamps, Reno, and Walter F. Zick, Las Vegas.

SOUTHERN CALIFORNIA CHAPTER

The regular August meeting was held in conjunction with the American Society of Planning Officials' annual convention, with officials of the Federal Redevelopment Agencies from Washington, D. C., taking part. The meeting was held in the Biltmore.

NORTHERN CALIFORNIA CHAPTER

Rear Admiral Frank E. Beatty, U.S.N., Commandant of the Mare Island Navy Yard at Vallejo, was the principal speaker at the July meeting in San Francisco.

Admiral Beatty spoke on the subject, "The Naval Ordinance Laboratory Story" and disclosed several important phases of the laboratory research program for the development of new types of weapons. In view of the situation throughout the world, the program was of particular interest.

SCHOLARSHIP AWARDED

The 1950 LeBrun Traveling Scholarship of the New York Chapter of the A.I.A. has been awarded to Ralph E. Myers, of the architectural firm of Kivett & Myers, Kansas City, Mo.

The award is a $2,800 check for travel expense covering a trip of at least six months duration in Europe, and was awarded for Myers' design of a "Suburban Railroad Station".

COLUMBIA UNIVERSITY

Isadore Rosenfield, New York architect and hospital consultant, has been appointed a visiting critic in graduate design at the Columbia University School of Architecture, according to a recent announcement by Dean Leopold Arnaud.

Rosenfield will present a problem which involves a hospital with one program and site, but with different climatic situations, at the winter sessions beginning in September.

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Structural Engineers Association of Central California
William H. Petersen, President; Walter S. Wassum, Vice President; O. T. Illerich, Sec. Treas.; Ernest D. Francis, M. A. Ewing, and Arthur A. Sauer, directors. Office O. T. Illerich, c/o Div. of Arch., Sacramento.

American Society of C. E.
San Francisco Section
A. W. Earl, President; G. B. Woodruff, Vice President; C. T. Wiskocil, Vice President; R. D. Dewell, Secretary-Treasurer. Secretary's Office, 604 Mission Street, San Francisco.

Structural Engineers Association of Southern California
E. C. Hillman, Jr., President; Donald F. Shugart, Vice President; Robert J. Short, Secretary-Treasurer. Directors: Charles M. Herd, John Minasian, Harry Bolin, John Case and Lewis Osborne. Office, 202 Architects Bldg., Los Angeles 13.

Puget Sound Engineering Council (Washington)
R. E. Kister, A. I. E. E., Chairman; E. R. McMillan, A. S. C. E., Vice Chairman; L. B. Cooper, A. S. M. E., Secretary; A. E. Nickerson, I. E. S., Treasurer. Offices. L. B. Cooper, c/o University of Washington, Seattle 5, Washington.

STRUCTURAL ENGINEERS ASSOCIATION OF SOUTHERN CALIFORNIA

The Code Committee has reported approval by the Los Angeles City Code authorities of new provisions pertaining to the use of plywood diaphragms, which include in part that diaphragms made of plywood applied to rafters or joists may be used to resist lateral loads in various agreed upon per foot. The new provisions apply to plywood sheathed wall panels as well as roof diaphragms.

The August meeting was a "Field Day" with members and guests congregating at the Oakmont Country Club for the annual outing. Following preliminaries at noon the afternoon was devoted to Golf, with J. G. Middleton in charge; Baseball with Geo. Brandow in charge; Swimming with Alex Laker in charge, and the annual "Field Day Dinner" in the evening which was outstanding.

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STRUCTURAL ENGINEERS ASSOCIATION OF NORTHERN CALIFORNIA

"An Introduction to the Subject of Building Costs" was the principal theme of a talk by Art B. Smith, Chief Engineer and partner of the general contracting firm of Swinerton & Walberg Company, at the August meeting, and "To Build or Not To Build, The Appraiser Views the Question", was the subject of a talk by Raymond D. Smith, San Francisco Real Estate Agent and Appraiser.

Both speakers indicated current world-wide events have a very important bearing on the adoption and solution of today's problems.

* * *

Reports from the Annual Picnic indicate that all attending had an exceptionally good time. Bob Dewell, Carl Baldwin, Alex Wilson, Neil Warren, Russ Graff, and Buzz Wright won honors in the golf tournament; the team of Anderson & Anderson won the Horseshoe pitching contest, while Buzz Wright's "Dynamic" baseball smothered all competition.

* * *

Austin Earl has been selected by the Board to serve as Chairman of the new By-Laws Committee. He will be assisted by Saph who requested that he be relieved of the duties of Chairman.

* * *

Lists of vibration observations made by the Seismological Field Survey of the U. S. Coast & Geodetic Survey are now available according to Franklin P. Ulrich. Attention is called to the two quarterly bulletins which may be of particular interest to engineers and others.

* * *

Annual Convention committee appointments include: Russell Graff, General; Michael Pregnoff,

STRUCTURAL ENGINEERS MEET TO PLAN 1950 DEL CORONADO ANNUAL CONVENTION

Left to right: Wolter T. Norris, Banquet Committee; Robert J. Short, Finance Committee; Donald F. Shugort, Sociol Committee; Harold P. King, State Director; William T. Wright, Technical Committee; Leonard W. Ross, General Chairman, who presided; Harry W. Bolin, President of the State Association; and Alex Silverstein, Attendance and Registration Committee.

Technical; B. J. Osborne, Banquet; Franklin Ulrich, Finance; Byron Nishkian, Athletic; James B. Herron, Social; William W. Moore, Public Relations; William H. Popert, Attendance and Registration, and Mrs. Arthur W. Anderson and Mrs. E. D. Francis, Ladies.

* * *

New Members: Eric O. Moorehead; Junior, Henry T. Taylor, and Donald W. Horton, Affiliate.

ELECTED ILLUMINATING ENGINEERS

Walter Sturrock, Fellow I.E.S., and long associated with the General Electric Company has been named president of the Illuminating Engineering Society.

Other officers elected are: Vice-president, E. M. Strong, Cornell University, Ithaca, N. Y.; Treasurer, R. F. Hartenstein, Ohio Edison Co., Akron, Ohio; General Secretary, A. H. Manwaring, Philadelphia Electrical & Mfg. Co., Philadelphia, Pa.; Directors: L. A. Hobbs, Smoot-Holman Co., Inglewood, Calif.; Roy A. Palmer, Duke Power Co., Charlotte, N. C.

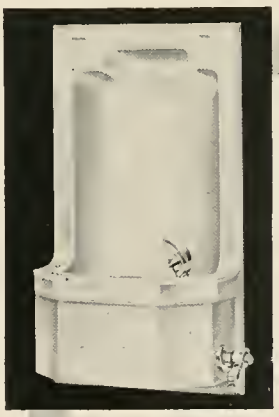
New Regional Vice-presidents to be installed in October include: Pacific Northwest Region, K. E. Hollingsworth, Puget Sound Power & Light Co., Seattle, Washington; South Pacific Coast Region, C. O. Martin, Benjamin Electric Mfg. Co., San Francisco, Calif.

STRUCTURAL ENGINEERS ASSOCIATION OF CALIFORNIA ANNUAL CONVENTION

Plans for the Annual Structural Engineers Association of California meeting in the Hotel del Coronado, Coronado, on October 12-14, are developing rapidly according to Leonard W. Ross, general committee chairman, who has announced the following committee personnel to handle various convention activities:

Technical Committee, William T. Wright, M. V. Pregnoff and R. Hutchingson; Banquet, Walter T. Norris, B. J. Osborne and A. L. Brinckman; Finance,

(See Page 38)



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INTRODUCING

ARTHUR C. STAAT

Our New Vice-President

Art was born in San Diego, California, and went to school there and in Pasadena. He majored in Mechanical Engineering. During 1923 he stayed out of school to serve as Assistant Surveyor on the construction of the Rose Bowl. Two years later he finished school, married Maude Maness, and started work for Pan American Petroleum Company. In those days men started on a "muck stick" and an "Irish go-cart", and Art was no exception. Before 'Teapot Dome", he was in charge of a Natural Gasoline extraction plant, and after the decline of Pan American he continued for a total of 3 years in the production of gasoline for Richfield Oil Company and a subsidiary company.

ARTHUR C. STAAT

Natural Gas Equipment

Thirteen years ago he joined Natural Gas Equipment Incorporated in the Southern California Division. During World War II he traveled extensively as Project Engineer on construction of Metallurgical Heat Treating Furnaces built by N.G.E. for aircraft and steel forging indutries. Maude and their only daughter, Lorna, went with him, and for 2½ years they lived in a house trailer, twice pulled across the continent. Lorna attended 7 high schools in her sophomore year.

In 1945 Art came to San Francisco as manager of his company's Northern California, Oregon, and Washington Commercial Division, which specializes in Space Heating applications.

Last June 25th Maude and Art celebrated their Silver Wedding Anniversary. Most honored guests were their two grandsons, Michael, age 3, and Douglas, aged 9 months.

Next to his grandchildren, fishing and hunting head the list of Art's interests. This works in well with the amount of traveling he does in business throughout the Northwest.

Art is active in Council affairs, having served on committees and as Secretary. Right now he is arranging details of the Chapter's participation in the Yosemite Architects' Convention.

CAMBRIDGE TILE MFG. CO. sponsored the July information meeting, breaking all attendance records for a summer meeting in the process. Genial Emil te Groen gave an interesting and informative account of his company's products, highlighting the program with several interesting visual slide presentations. Thanks to meetings of this calibre and attendance, the San Francisco Chapter continues to lead the way among all the thirty Council chapters.

CALIFORNIA COUNCIL OF ARCHITECTS and the General Chairman for the 23rd Annual Convention, William H. "Bill" Rowe, have invited the California chapters of the Producers' Council to participate in the programs to be presented at Yosemite September 28-29-30. This marks a new high in the relationship betweeen the two Councils. Although Producers have traditionally participated in the Architect's convention activities, such participation has been on the less serious side. While the Producers will continue to assist in staging the extra-curricular activities and will conduct the annual Sportsman's Dinner on the last night, they will, for the first time, contribute to at least two of the panel discussions now being blue printed. The names of those who will represent the Producers' in these symposia have not been announced as we go to press.

ARCHITECTS' CONVENTION this year at Yosemite will apparently attract more Producers than ever before. A preliminary poll indicates that no fewer than forty members (and wives) from the

USE QUALITY PRODUCTS — CONSULT AN ARCHITECT

California chapters will be present to enjoy the "fire-fall". Because President George will be in New York City attending the annual Chapter Presidents' Conference, our new Veep, hard working Art Staat, will coordinate all Council activities. Art is already deep in plans which, with the aid of the many **bottle**-scarred veterans of previous conventions, should result in the best get-together of all time.

REGRETFULLY we announce that the Mueller Brass Co. has resigned from the Council as national members. This policy change has forced the resignation from the chapter of our Vice President and Program Chairman A. J. MacJennet. "Mac" has served the organization well and faithfully and his loss will be keenly felt. Mueller Brass has contributed many active members to the Council in years gone by will leave a gap in our membership hard to fill.

JOINT TECHNICAL COMMITTEE headed by Tait Smith of Ceco Steel advises that some members have not yet returned the Specification Questionnaire mailed some months ago. The material is badly needed by the Committee to provide a basis for its findings. Preliminary reports indicate that the work of this group will be the subject matter for one of the open forum discussions to be staged at Yosemite. Let's help the cause and get these in promptly!

IMPROVEMENT LOANS INSURED AND CLAIMS PAID BY FHA

A recent compilation of the state distribution of property improvement loans insured and claims paid under Title 1, FHA, shows that in the western portion of the United States the following transactions have been made:

Washington, 241,445 loans have been insured amounting to $88,542,710 of which 7,196 insurance claims in the amount of $1,824,211 have been paid: **Oregon,** 124,463 loans, amount $46,744,065—3,537 claims amount $1,005,817; **California,** 1,065,019 loans, amount $407,839,089—29,913 claims amount $9,933,200; **Arizona,** 60,874 loans, amount $29,072,519—1,651 claims amount $570,329.

The total of the four states is 1,491,801 loans amounting to $572,198,383; 42,297 insurance claims representing $13,333,557.

OREGON STATE DIRECTOR OF FHA HAS RESIGNED

Folger Johnson, Director of the Federal Housing Administration for the State of Oregon, has resigned and will be succeeded by Albert L. Buchner, who has been Assistant in the Portland office.

Johnson is resuming his private architectural practice.

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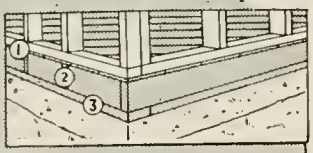

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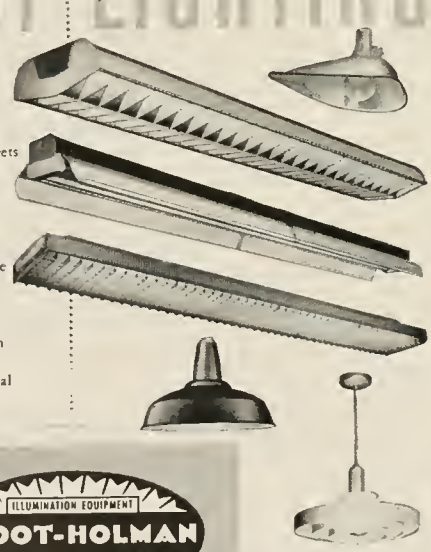

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HEADLINE NEWS & VIEWS

By E. H. W.

THE amount of construction undertaken by the U. S. Bureau of Reclamation by force account dur ing 1949 amounted to $5,741,000 or 2.6 per cent o the year's $217,000,000 construction program.

* * *

NEARLY twice as many Americans use gas nov as in 1940, according to a government study.

* * *

1949 HOUSING production broke all previou records—1950 is 50% ahead of last year's starts t date.

* * *

THE world's first all-aluminum highway bridg spaning the Saguenay River at Arvida, Quebec has just been completed. It is 290 ft. long.

* * *

EVERY second your watch ticks the Federa government spends $210 more than it takes in.

* * *

FOR the second consecutive year the Southen pulpwood industry has planted in excess of 6 million trees.

* * *

PRESIDENT Truman has asked for a "re-exam nation" of public housing in "terms of the develop ing international situation", and the Public Hous ing Administration has already been asked t limit the start of construction on public housin projects to 30,000 dwelling units for the last si months of this year.

* * *

TO keep pace with the development of Califo nia's highways, the Bridge Department, Divisio of Highways, State of California, has sent out a appeal for associate and assistant bridge eng neers.

* * *

THE United States is turning out steel at the ra of 100,000,000 tons a year . . . Russia's output is les than 25,000,000 tons a year.

* * *

THE Institute of Boiler and Radiator Manufa turers is sponsoring a School of Modern Heating the form of a traveling exhibit which will be he in twelve states this year.

* * *

AT a recent meeting in Pittsburgh representin some seventeen interested organizations, the Ste Structures Painting Council was formed with J. Jackson of the American Institute of Steel Co struction being named chairman of the Executiv Committee.

* * *

ENGINEERING construction contracts during t month of June amounting to $1,253,720,000 set new record for any month in the nation's histor

ARCHITECTURAL NEW LOOK

(From Page 26)

cent austere conversion of the exterior of the De Young Museum in Golden Gate Park fronting on the Band Concourse. In this saturnalia of architectural demolishment that destroyed its former character, and reduced the original facade to naked cement walls, nothing was provided in its place, of beauty or refinement, only barren walls, hard lines; austerity. All that is left to remind us of its original aesthetic character is the "Pool of Enchantment" in the fore court of the building, where the bronze Nymph, no doubt, is now blowing a sour note on his reed pipe, out of harmony with its crude modern new look surroundings.

Viewed from the south of the Band Concourse "the upper ground", one is immediately impressed with the fact that this architectural "faux pas" created by the city, has in effect, not only disrupted the former architectural continuety that was formed by the Steinhard Aquarium, the Academy of Science Buildings, and the Planatarium addition, but also by its lack of conformity depreciated all existing architectural values in and about the Band Concourse of which the Museum originally had formed a part.

However, to those of the old school, who's conception of Architecture had its beginning with Vignola and the Orders, there is this consolation The beauty of the fountains in this vicinity of the Band Concourse, and other architectural landscape embelishments, and the refinement of the existing Renaissance buildings—their character, that stemmed from centuries of progress in conventional architectural design and composition—will endure long after the many incongruous creations of the modern exponents, hoist by their own petard —will have either been forgotten—or remain an unpleasant memory of the most decadent period in our architectural development of the past fifty years, when we again return to normalcy.

WINDOWS OR GLASS WALLS

(From Page 27)

Perhaps the best solution is the use of trees or other natural growth to shade the west wall of the house on summer afternoons. For protection from the almost horizontal rays of the late afternoon sun a vertical trellis supporting deciduous vines can be utilized. The advantage of deciduous trees and vines as shades is that they give protection when needed in the summer, but in the winter they let the sun pass through them and into the house where it is welcome.

The deciding factor about windows is not an economic one, and may be summed up in the earlier statement that almost everyone likes big windows. A windowless house, no matter how spacious and convenient its interior plan, no matter how moden and complete its mechanical equipment, is unthinkable.

As more people become acquainted with contemporary houses, demand for whole walls of glass will undoubtedly increase, especially when they see how a small room with a glass wall opening onto a garden can seem to be as spacious and livable as an ordinary room twice its size.

SCHOOL GRANT APPROVED

The State of California recently approved an application of the Vaca Valley Elementary School District and the Vaca High School District for funds to be used in the construction of a new Grammar School and an addition on the Vacaville High School.

The district also approved the issuance of school bonds in the amount of $400,000 and $269,198 respectively.

AMERICAN WOOD PRESERVERS' ASSOCIATION ADDS TO STAFF

Stephen R. Andrus, recent graduate of the Oregon State College with degree in civil engineering, has been named to the staff of the Service Bureau of the American Wood Preservers' Association western office at Portland, Oregon, according to W. R. Bond, western manager.

The western service bureau of the AWPA has been in operation for the past two years.

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BOOK REVIEWS
PAMPHLETS AND CATALOGUES

THE ARCHITECTURE OF BRIDGES. By Elizabeth B. Mock. The Museum of Art. 11 W. 53rd St., N. Y. Price $5.00.

Contains 128 pages and 170 illustrative plates. The author traces the history of various types of bridges from the time of the Romans to the present time in terms of the four basic materials: stone, wood, metal and reinforced concrete. The book has been produced under a grant from the American Bridge Company.

TOURIST COURT PLAN BOOK (Second Edition. Tom E. Lightfoot, Consulting Architect. The Tourist Journal, Temple, Texas. Price $19.50.

The "Tourist Court Plan Book—2nd Edition" has been prepared by the staff of the Tourist Court Journal, including Tom E. Lightfoot, Consulting Architect, and Bob Gresham, Hill Gresham, and Jewell A. Berry.

The book is designed to assist the person just entering the tourist court business as well as the present tourist owner and operator. It covers the subject of Financing, Location, Planning, Cooling and Heating, Plumbing and Bathroom Equipment, Lighting, Coffee Room, Furnishings, Service Station, Landscaping, Advertising and Selling, Guide Listings and Earnings.

The book also contains a substantial number of drawings and floor plans.

NEW CATALOGUES AVAILABLE

Any of the catalogues or folders described here may be obtained by forwarding your request as indicated in the coupon below to the office of the ARCHITECT & ENGINEER. *Merely mark the items you want and clip or paste the coupon to your letterhead.*

189. MARBLE FOR THE HOME. A full color booklet has been made available by the Marble Institute of America. In it are dozens of photographs showing recent trends in fine home decoration and many helpful hints for every home-maker. Marble is readily available today. Many of the finest furniture designers and interior decorators in the country are stressing its importance as a home decoration feature. A.I.A. 22-A, 12 pages illus., 7/50.

190. FIREPROOFING DETAILS WITH LIGHTWEIGHT PLASTER. Two folders on fireproofing with lightweight Permalite plaster are now available. They will be of particular importance to anyone specifying building materials because they include an actual detailed drawing and a short form specification which can be copied verbatim as a part of a job specification. One of the folders is on the fireproofing of steel columns and gives necessary specifications for getting ratings of 1, 2, 3 or 4 hours. The other folder is on a suspended ceiling under non-combustible construction which has a 4 hr. fire rating. A.I.A. 21-A-7, 8 pages illus., 7/50.

191. LIGHTING FOR SELLING OUTDOORS. The Steber Manufacturing Company has just issued a catalog bulletin illustrating and describing its new and greatly enlarged line of Column Lights. These units in either round or square base type, are designed for dramatic and glamorous lighting of service stations, nite clubs, amusement parks, theatres and used car lots. 125-50, 4 pages illus., 7/50.

193. BITUMULS PAVING HANDBOOK. Just off the press is a new edition of the Bitumuls Paving Handbook. It is regarded by bituminous engineers as one of the most practical pocket-size handbooks on asphaltic construction published. The book covers all aspects of paving techniques with bitumuls emulsified asphalt and also with other types of bituminous binders. Also included are data on Laykold compounded asphalts for flooring, tennis courts, protective coatings, adhesives and waterproofing. 78 pages illus., 7/50.

194. PC FOAMGLAS. A new booklet entitled "PC Foamglas, The Long Life Insulation for Commercial, Industrial and Public Buildings" has just been released by the Pittsburgh Corning Corporation. For the first time, architects, engineers and designers are offered a single piece of literature containing the complete story on normal temperature (50° to 150° F.) applications of PC Foamglas. Included in the booklet is new information concerning the installation of Foamglas in floors-on-ground; the use of the material as a wall lining, for erecting free-standing interior walls, and for ceiling insulation. A.I.A. 37-B, 20 pages illus., 7/50.

195. PAINTING WITH ALUMINUM. A comprehensive brochure for industrial users of aluminum paint is being distributed to thousands of manufacturers by Aluminum Company of America. Profusely illustrated the book uses thirty photographs to show proven applications of aluminum paints over the years, ranging from oil refineries and coal tipples to industrial fencing and bridges. Several pages are devoted to questions and answers and an aluminum paint coverage table. 32 pages illus., 3/50.

196. THE USE OF ELECTRIC DISPOSALS ON PRIVATE SEPTIC TANK SYSTEMS. A new booklet giving full details on how garbage disposers can be used with septic tanks has been prepared by the General Electric Company. The publication covers the functions of a septic tank and soil absorption system, covers design requirements for new or existing septic tanks which are to serve a disposer, and gives recommendations on capacity, location and other important factors. It also supplies data on soil absorption systems, giving information on seepage areas, trench absorption areas and proper location of the system. 8 pages, 7/50.

197. NEW TYPE OF OVERHEAD GARAGE DOOR. A bulletin which illustrates and describes the new Morrison Roly-Door has just been published by Morrison Steel Products, Inc. This bulletin illustrates the exclusive feature of the low headroom bracket which is standard equipment. Operating completely within the garage, the Morrison Roly-Door requires only 5½" headroom for the standard 8' wide by 7' high opening. No installation to the Roly-Door of this low headroom bracket is necessary; it is welded to the track assembly at the factory. D50-1-A, 4 pages illus., 7/50.

198. CEMESTO DESIGN AND CONSTRUCTION APPLICATION DATA. The Celotex Corporation recently has issued a Manual covering Cemesto Design and Construction Application Data which is proving of real value to the architect, engineer, designer and maintenance engineer who is interested in building better, low-cost, insulated buildings. The book contains detailed drawings, data and other information stemming from 30 years of successful application experience that provides a springboard of cost-saving application ideas for buildings of all types. 40 pages illus., 6/50.

199. MARBLE FORECAST FOR 1950-1951. Annual publication of the Marble Institute of America, is a unique and necessary method of providing Architects, Engineers, Contractors, and others with a listing of types of marble, sources of availability, tabulation of color ranges of each variety, classification of each variety as to soundness, and list of all members of the Marble Institute, an organization of quarriers, wholesalers, finishers and contractors. This vast amount of information is now available. A.I.A. File No. 22-A.

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189	190	191	193	194
195	196	197	198	199

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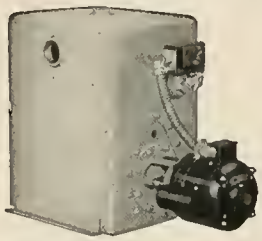

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BETTER • QUICKER • CHEAPER

WITH THE ENGINEERS

(From Page 31)

Robert J. Short, F. P. Ulrich, and Merle A. Ewing; Athletic, J. G. Middletown, Byron Nishkian, and W. S. Wassum; Social, Donald F. Shugart, J. W. Herron and Jack E. Medlick; Public Relations, Ben Benioff, William Moore and Merle Godwin; Attendance and Registration, Alex N. Silverstein, Will H. Popert and L. F. Greene; Hostess, Mrs. Harry W. Bolin, and Ladies' Committee, Mrs. Geo. E. Brandow, Mrs. A. W. Anderson, Mrs. E. D. Francis, Mrs. E. C. Hillman and Mrs. W. H. Petersen. Assisting Ross on the General Committee are Russell Graff and D. C. Willett.

GEORGE E. SOLNAR, JR. DIES ON VACATION TRIP

George E. Solnar, Jr., 37, Manager of the Clay Brick and Tile Association, San Francisco, died suddenly of lobar pneumonia on August 2nd while on a pack trip in the High Sierras near Mono Springs.

Geo. E. Solnor, Jr.

Packing in on Monday with his daughter, Sally, and a group of her friends from a girl's camp, Mr. Solnar contracted pneumonia from exposure and the high altitude.

Solnar graduated from Stanford University in 1936, where he received his Engineering Degree in 1938. Following graduation he served as building inspector in Fresno and engaged in engineering work in Los Angeles. He then returned to Stanford as Associate Professor of Civil Engineering, and in 1947 assumed management of the Clay Brick Manufacturers Association of Northern California.

Solnar was a member of the Commonwealth Club, Engineers' Club and past Secretary of the Structural Engineers Association of San Francisco. He was also a member of the American Society for Testing Materials, Pacific Coast Building Officials Conference and American Society of Civil Engineers.

In addition to his wife, Jane Thompson Solnar, Mr. Solnar leaves three daughters, Sally 6, Katherine 3 and Jane Ann 2; also his father and mother, Mr. and Mrs. George E. Solnar, Sr. of Santa Cruz.

ESTIMATOR'S GUIDE

BUILDING AND CONSTRUCTION MATERIALS

PRICES GIVEN ARE FIGURING PRICES AND ARE MADE UP FROM AVERAGE QUOTATIONS FURNISHED BY MATERIAL HOUSES TO SAN FRANCISCO CONTRACTORS. 3% SALES TAX ON ALL MATERIALS BUT NOT LABOR

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

BONDS—Performance or Performance plus Labor and Material Bond(s), $10 per $1000 on contract price. Labor & Material Bond(s) only, $5.00 per $1000 on contract price.

BRICKWORK—

Common Brick—Per 1M laid—$100.00 up (according to class of work).

Face Brick—Per 1M laid—$200.00 and up (according to class of work).

Brick Steps—$3.00 and up.

Common Brick Veneer on Frame Bldgs.—Approx. $1.20 and up—according to class of work).

Face Brick Veneer on Frame Bldgs.—Approx. $2.00 and up (according to class of work).

Common Brick—$34.00 per M—truckload lots, delivered.

Face Brick—$81.00 to $106.00 per M, truckload lots, delivered.

Mantel Fire Brick—$90.00 per M—F.O.B. Pittsburgh.

Fire Brick—Per M—$96.00 to $130.00.

Cartage—Approx. $9.00 per M.

Paving—$75.00.

BUILDING PAPER & FELTS

1 ply per 1000 ft. roll	$5.30
2 ply per 1000 ft. roll	7.80
3 ply per 1000 ft. roll	9.70
Brownskin, Standard 500 ft. roll	6.85
Sisalkraft, reinforced, 500 ft. roll	7.00

Sheathing Papers—

Asphalt sheathing, 15-lb. roll	$1.98
30-lb. roll	2.93
Campcourse, 216-ft. roll	2.95
Blue Plasterboard, 60-lb. roll	5.10

Felt Papers—

Deadening felt, ¾-lb., 50-ft. roll	$3.13
Deadening felt, 1-lb.	3.69
Alphalt roofing, 15 lbs.	1.98
Asphalt roofing, 30 lbs.	2.93

Roofing Papers—

Standard Grade, 108-ft. roll, Light	$1.74
Medium	2.03
Heavy	2.40
Extra Heavy	2.77

BUILDING HARDWARE—

Sash cord com. No. 7	$2.65 per 100 ft.
Sash cord com. No. 8	3.80 per 100 ft.
Sash cord spot No. 7	3.65 per 100 ft.
Sash cord spot No. 8	4.00 per 100 ft.
Sash weights, cast iron, $100.00 ton.	
1-Ton lots, per 100 lbs.	$3.75
Less than 1-ton lots, per 100 lbs.	$4.75
Nails, per keg, base	$11.00
8-in. spikes	11.00
Rim Knob lock sets	3.50
Butts, dull brass plated on steel, 3½x3½	.71

CONCRETE AGGREGATES—

The following prices net to Contractors unless otherwise shown. Carload lots only.

	Bunker per ton	Del'd per ton
Gravel, all sizes	$2.44	$2.90
Top Sand	2.38	3.13
Concrete Mix	2.38	3.06
Crushed Rock, ¼" to ¾"	2.38	2.90
Crushed Rock, ¾" to 1½"	2.38	2.90
Roofing Gravel	2.81	2.90
River Sand	2.50	3.00
Sand—		
Lapis (Nos. 2 & 4)	3.56	3.94
Olympia (Nos. 1 & 2)	3.56	3.88

Cement—

Common (all brands, paper sacks), carload lots, $3.39 per bbl. f.o.b. car; delivered $3.60.

Per Sack, small quantity (paper) $1.00

Carload lots, in bulk per bbl. 2.79

Cash discount on carload lots, 10c a bbl., 10th Prox., less than carload lots $4.00 per bbl. f.o.b. warehouse or delivered.

Cash discount 2% on L.C.L.

Trinity White, Medusa White — 1 to 100 sacks, $3.13 sack warehouse or del.; $9.56 bbl. carload lots.

CONCRETE READY-MIX—

1-2-4 mix, to 10 yards*	$11.15
10 to 100* yards	10.15
100 to 500 yards	9.65
Over 500 yards	9.45

* Delivered to site.

CONCRETE BLOCKS—

	Haydite	Basalt
4x8x16-inches, each	$.16	$.16
6x8x16-inches, each	.21	.21
8x8x16-inches, each	.25	.25
12x8x16-inches, each	.33	.375
12x8x24-inches, each	....	.60

Haydite Aggregates—

¾-inch to ⅜-inch, per cu. yd.	$6.50
⅜-inch to ⅛-inch, per cu. yd.	6.50
⅛-inch to 0-inch, per cu. yd.	7.00

DAMPPROOFING and Waterproofing—

Two-coat work, $9.00 per square.

Membrane waterproofing—4 layers of saturated felt, $10.00 per square.

Hot coating work, $5.00 per square.

Medusa Waterproofing, $3.50 per lb. San Francisco Warehouse.

Tricosal concrete waterproofing. 50c a cubic yd. and up.

ELECTRIC WIRING—$15 to $20 per outlet for conduit work (including switches).

Knob and tube average $6.00 per outlet. (Available only for priority work.)

ELEVATORS—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing a slow speed automatic passenger elevator in small four story apartment building, including entrance doors, about $8000.00.

EXCAVATION—

Sand, $1.00; clay or shale, $1.50 per yard.

Trucks, $30 to $45 per day.

Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

FIRE ESCAPES—

Ten-foot galvanized iron balcony, with stairs, $250 installed on new buildings; $300 on old buildings.

FLOORS—

Composition Floors, such as Magnesite, 50c per square foot.

Linoflor—2 gages—$3.00 per sq. yd.

Mastipave—$1.50 per sq. yd.

Battleship Linoleum—⅛"—$3.50 sq. yd.; 3/16"—$3.50 sq. yd.

Terazzo Floors—$1.50 per sq. ft.

Terazzo Steps—$2.50 per lin. ft.

Mastic Wear Coat—according to type—20c to 35c.

Hardwood Flooring—

Standard Mill grades not available.

Victory Oak— T & G

⅜ x 2¼"	$252.00 per M. plus Cartage
½ x 2"	$210.00
½" x 1½"	200.00

Prefinished Standard & Better Oak Flooring

⅜ x 3¼"	$265.00 per M. plus Cartage
½ x 2½"	237.00 per M. plus Cartage

Maple Flooring

⅜" T & G Clear	$330.00 per M. plus Ctg.
2nd	305.00 per M. plus Ctg.
3rd	255.00 per M. plus Ctg.

Floor Layers' Wage, $2.35 hr. (Legal as of Nov. 1, 1949. Given us by Inlaid Floor Co.)

GLASS—

Single Strength Window Glass	$ .27 per □ ft.
Double Strength Window Glass	.38 per □ ft.
Plate Glass, ¼ polished to 75	1.10 per □ ft.
Plate Glass, ¼ polished, 75 to 100	1.40 per □ ft.
¼ in. Polished Wire Plate Glass	2.00 per □ ft.
¼ in. Rgh. Wire Glass	.64 per □ ft.
Obscure Glass	.45 per □ ft.

Glazing of above is adidtional.

Glass Blocks $2.75 per □ ft. set in place

HEATING—

Average, $2.50 to $3.00 per sq. ft. of radiation, according to conditions.

Warm air (gravity) average $64 per register.

Forced air average $91 per register.

INSULATION AND WALLBOARD—

Rockwool Insulation—
(2") ..... $65.00 per M sq. ft.
Cotton Insulation—Full-thickness
(3⅝") ..... $95.50 per M sq. ft.
Sisalation Aluminum Insulation—Aluminum coated on both sides ..... $23.50 per M sq. ft.
Tileboard—4'x6' panel ..... $9.00 per panel
Wallboard—½" thickness ..... $55.00 per M sq. ft.
Finished Plank ..... $69.00 per M sq. ft.
Ceiling Tileboard ..... $69.00 per M sq. ft.

IRON—Cost of ornamental iron, cast iron, etc., depends on designs.

LUMBER—

No. 1 Common ..... $85.00 per M
No. 2 Common ..... 83.00 per M
Select O. P. Common ..... 90.00 per M

Flooring—

	Per M Delvd.
V.G.-D.F. B & Btr. 1 x 4 T & G Flooring	$225.00
"C" and better—all	225.00
"D" and better—all	225.00
Rwd. Rustic—"A" grade, medium dry 6 to 24 ft.	185.00
"B" grade, medium dry	150.00
Plywood	18c to 20c per ft.
Plyscord	11½c per ft.
Plywall	9c per ft.
Plyform	15c per ft.

Shingles (Rwd. not available)—
Red Cedar No. 1—$9.50 per square; No. 2, $7.00; No. 3, $5.00.
Average cost to lay shingles, $6.00 per square.
Cedar Shakes—½" to ¾" x 24/26 in handsplit tapered or split resawn, per square $15.25
¾" to 1¼" x 24/26 in split resawn, per square 17.00
Average cost to lay shakes,— 8.00 per square

MARBLE—(See Dealers)

METAL LATH EXPANDED—

Standard Diamond, 3.40, Copper Bearing, per carloads, per 100 sq. yds. $39.00
Standard Ribbed, ditto $41.00

MILLWORK—Standard.

D. F. $150 per 1000. R. W. Rustic $175 per 1000 (delivered).
Double hung box window frames, average with trim, $12.50 and up, each.
Complete door unit, $15 to $25.
Screen doors, $8.00 to $12.00 each.
Patent screen windows, $1.25 a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., upper $9.00 to $11.00; lower $12.00 to $13.00.
Dining room cases, $20.00 per lineal foot. Rough and finish about $1.00 per sq. ft.
Labor—Rough carpentry, warehouse heavy framing (average), $75.00 per M.
For smaller work average, $85.00 to $100. per 1000.

PAINTING—

Two-coat work ..... per yard 85c
Three-coat work ..... per yard $1.10
Cold water painting ..... per yard 25c
Whitewashing ..... per yard 15c

Linseed Oil, Strictly Pure (8asis 7¾ lbs. per gal.)	Raw	Boiled
Light iron drums ..... per gal.	$2.02	$2.08
5-gallon cans ..... per gal.	2.14	2 20
1-gallon cans ..... each	2.26	2.32
Quart cans ..... each	.62	.64
Pint cans ..... each	.34	.35

Turpentine (8asis, 7.2 lbs. per gal.)	Pure Gum Spirits
Light iron drums ..... per gal.	$1.00
5-gallon cans ..... per gal.	1.12
1-gallon cans ..... each	1.24
Quart cans ..... each	.38
Pint cans ..... each	.23

Replacement Oil—$2.75 per gal. in drums. $2.75 per gal. in 5-gal. containers.
Use Replacement Oil ..... $3.00 per gal. in 1 gal. cont.
A deposit of $7.50 required on all drums.

PATENT CHIMNEYS—

6-inch ..... $2.50 lineal foot
8-inch ..... 3.00 lineal foot
10-inch ..... 4.00 lineal foot
12-inch ..... 5.00 lineal foot

PLASTER—

Neat wall, per ton delivered in S. F. in paper bags, $17.60.

PLASTERING (Interior)—

	Yard
3 Coats, metal lath and plaster	$3.00
Keene cement on metal lath	3.50
Ceilings with ¾ hat roll channels metal lath (lathed only)	3.00
Seilings with ¾ hat roll channels metal lath plastered	4.50
Single partition ¾ channel lath 1 side (lath only	3.00
Single partition ¾ channel lath 2 inches thick plastered	8.00
4-inch double partition ¾ channel lath 2 sides (lath only)	5.75
4-inch double partition ¾ channel lath 2 sides plastered	8.75
Thermax single partition; 1" channels; 2¼" overall partition width. Plastered both sides	7.50
Thermax double partition; 1" channels; 4¼" overall partition width. Plastered both sides	11.00
3 Coats over 1" Thermax nailed to one side wood studs or joists	4.50
3 Coats over 1" Thermax suspended to one side wood studs with spring sound isolation clip	5.00

Note—Channel lath controlled by limitation orders.

PLASTERING (Exterior)—

	Yard
2 coats cement finish, brick or concrete wall	$2.50
3 coats cement finish, No. 18 gauge wire mesh	3.50

Lime—$4.00 per bbl. at yard.
Processed LLiLme—$4.15 per bbl. at yard.
Rock or Grip Lath—⅜"—30c per sq. yd.
⅝"—29c per sq. yd.

Composition Stucco—$4.00 sq. yard (applied).

PLUMBING—

From $200.00 per fixture up, according to grade, quality and runs.

ROOFING—

"Standard" tar and gravel, 4 ply—$11.00 per sq. for 30 sqs. or over.
Less than 30 sqs. $14.00 per sq.
Tile $40.00 to $50.00 per square.
No. 1 Redwood Shingles in place, 4½ in. exposure, per square $18.25
5/2 No. 1 Cedar Shingles, 5 in. exposure, per square 14.50
5/8 x 16"—No. 1 Little Giant Cedar Shingles, 5" exposure, per square .. 18.25
4/2 No. 1-24" Royal Cedar Shingles 7½" exposure, per square 23.00
Re-coat with Gravel $5.50 per sq.
Asbestos Shingles $35 to $45 per sq. laid
½ to ¾ x 25" Resawn Cedar Shakes, 10" Exposure $24.0
¾ to 1¼ x 25" Resawn Cedar Shakes, 10" Exposure $29.0
1 x 25" Resawn Cedar Shakes, 10" Exposure 22.0
Above prices are for shakes in place

SEWER PIPE—

C.I. 6-in. to 24-in. B. & S. Class B and heavier, per ton $99.5
Vitrified, per foot:
Standard, 8-in. ..... $ .6
Standard, 12-in. 1.1
Standard, 24-in. 5.0
Clay Drain Pipe, per 1,000 L.F. in carload lots:
Standard, 6-in. $211.0
Standard, 8-in. 352.0

SHEET METAL—

Windows—Metal, $2.50 a sq. ft.
Fire doors (average), including hardwar $2.80 per sq. ft., size 12'x12'. $3.75 pe sq. ft., size 3'x6'.

SKYLIGHTS—(not glazed)

Copper, $1.25 sq. ft. (flat).
Galvanized iron, 65c sq. ft. (flat).
Vented hip skylights, $1.50 sq. ft.

STEEL—STRUCTURAL—

$220 per ton erected, when out of mill
$270 per ton erected, when out of stock

STEEL REINFORCING—

$200.00 per ton, in place.

¼-in. Rd. (Less than 1 ton) $7.6
⅜-in. Rd. (Less than 1 ton) 6.5
½-in. Rd. (Less than 1 ton) 6.2
⅝-in. Rd. (Less than 1 ton) 6.0
¾-in. & ⅞-in. Rd. (Less than 1 ton) .. 5.9
1-in. & up (Less than 1 ton) 5.8
1 ton to 5 tons, deduct 15c.

STORE FRONTS (None available).

TILE—

Ceramic Tile Floors—Commercial $1.15 t $1.50.
Cove Base—$1.35 per lin. ft.
Tile Wainscot & Floors—Residential $1.50 t $1.75.
Tile Wainscot—Commercial $1.35 to $1.50.
Asphalt Tile Floor ⅛" x ⅜"—$ .40 per sq. ft Light shades slightly higher.
Cork Tile—$1.00 per sq. ft.
Mosaic Floors—See dealers.
Lino-Tile—$1.00 per sq. ft.

Wall Tile—
Glazed Terra Cotta Wall Units (single faced laid in place—approximate prices:

2 x 6 x 12	$1.25 sq. ft
4 x 6 x 12	1.50 sq. ft
2 x 8 x 16	1.45 sq. ft
4 x 8 x 16	1.75 sq. ft

Building Tile—

8x5½x12-inches, per M	$139.5
6x5½x12-inches, per M	105.0
4x5½x12-inches, per M	84.0

Hollow Tile—

12x12x2-inches, per M	$116.0
12x12x3-inches, per M	124.0
12x12x4-inches, per M	140.0
12x12x6-inches, per M	186.0

F.O.B. Plant

VENETIAN BLINDS—

75c per square foot and up. Installatio extra.

WINDOWS—STEEL—

60c per square foot, $5 for ventilators.

ARCHITECT AND ENGINEER
ESTIMATOR'S DIRECTORY
Building And Construction Materials

EXPLANATION—Building and construction materials are shown in major classified groups for general identification purposes with names and addresses of suppliers of materials listed in detail under group classification where name first appears—main offices are shown first, with branch or district offices following. The numeral appearing in listings refers to the major group classification where complete data on the dealer, or representative, may be found.

CHITECTURAL VENEER (a)

ramic Veneer

'ACIFIC CLAY PRODUCTS
an Francisco: 605 Market St., GA 1-3970
os Angeles, Portland, Salt Lake City
GLADDING, McBEAN & CO. *(1)

celain Veneer

'ORCELAIN ENAMEL PUBLICITY BUREAU
(Dept. AE-450)
Room 601, Franklin Building, Oakland 12, California
P. O. Box 186, East Pasadena Station, Pasadena 8, California

nite Veneer

'ERMONT MARBLE COMPANY
an Francisco: 525 Market Street, SU 1-6747

rble Veneer

'ERMONT MARBLE COMPANY
an Francisco: 525 Market Street, SU 1-6747

CKWORK (1)

e Brick

GLADDING, McBEAN & CO.
an Francisco: Harrison at 9th Sts., UN 1-7400
os Angeles: 2901 Los Feliz Blvd., OL 2121
Offices at Portland, Seattle, Spokane

RAFTILE
liles, California, Niles 3611
an Francisco 5: 50 Hawthorne St., DO 2-3780
os Angeles 13: 406 South Main St., MU 7241

EMILLARD-DANDINI CO.
an Francisco: 400 Montgomery St., EX 2-4988

LDING PAPER & FELTS (2)

SALKRAFT COMPANY
an Francisco: 55 New Montgomery St., EX 2-3066
hicago, Ill.: 205 West Wacker Drive

NGIER PACIFIC CORP.
an Francisco 5: 55 New Montgomery St., DO 2-4416
os Angeles: 7424 Sunset Boulevard

LDING HARDWARE (3)

HE STANLEY WORKS
an Francisco: Monadnock Bldg., YU 6-5914
ew Britain, Conn.

MENT (c)

ACIFIC PORTLAND CEMENT
an Francisco: 417 Montgomery St., GA 1-4100

NCRETE AGGREGATES (4)

twaight Aggregates

MERICAN PERLITE CORP.
chmond, Calif.: 26th & B Sts.—Yard 2, RI 4307

ESCAPES (5)

DULE STEEL
n Francisco: 1750 Army St., VA 4-4141
s Angeles, Calif.—LA 0911
rtland, Ore.—BE 5155
attle, Wash.—SE 3010

MICHAEL & PFEFFER IRON WORKS, INC.
San Francisco 3: Tenth & Harrison Sts., MA 1-5966

FLOORS (6)

Hardwood Flooring

HOGAN LUMBER COMPANY
Oakland: Second and Alice Sts., GL 1-6861

E. K. WOOD LUMBER CO.
Los Angeles: 4710 S. Alameda St., JE 3111
Oakland: 727 Kennedy St., KE 4-8466
Portland: 827 Terminal Sales Building

GLASS (7)

W. P. FULLER COMPANY
San Francisco: 301 Mission St., EX 2-7151
Los Angeles, Calif.
Portland, Oregon

HEATING (8)

HENDERSON FURNACE & MFG. CO.
Sebastopol, Calif.

S. T. JOHNSON CO.
Oakland 8: 940 Arlington Ave., OL 2-6000
San Francisco: 585 Potrero Ave., MA 1-2757
Philadelphia 8, Pa.: 401 No. Broad St.

SCOTT COMPANY
San Francisco: 243 Minna St., YU 2-0400
Oakland: 113 - 10th St., GL 1-1937
San Jose, Calif.
Los Angeles, Calif.

THOMAS B. HUNTER (Designer)
San Francisco: 41 Sutter St., GA 1-1164

INSULATION AND WALLBOARD (9)

LUMBER MANUFACTURING CO.
San Francisco: 225 Industrial Ave., JU 7-1760

SISALKRAFT COMPANY *(2)
WESTERN ASBESTOS COMPANY
San Francisco: 675 Townsend St., KL 2-3868
Oakland: 251 Fifth Avenue, GL 1-2345
Sacramento: 1224 I Street, 2-8993
Stockton: 1120 E. Weber Ave., 4-1863
Fresno: 1837 Merced Street, 3-3277
San Jose: 201 So. Market St., BA 4359-J

IRON—Ornamental (10)

MICHEL & PFEFFER IRON WORKS, INC. * (5)

LIGHTING FIXTURES (11)

SMOOT-HOLMAN COMPANY
Inglewood, Calif., OR 8-1217
San Francisco: 55 Mississippi St., MA 1-8474

LUMBER (12)

HOGAN LUMBER COMPANY *(6)
LUMBER MANUFACTURING CO. *(9)
E. K. WOOD LUMBER CO *(6)

Shingles

SIDEWALL LUMBER COMPANY
San Francisco 24: 1995 Oakdale Ave., AT 2-8112

MARBLE (13)

VERMONT MARBLE COMPANY
San Francisco: 525 Market St., SU 1-6747
Los Angeles 4: 3522 Council St., FA 7834

METAL LATH EXPANDED (14)

FORDERER CORNICE WORKS
San Francisco: 269 Potrero Ave., HE 1-4100
SOULE STEEL *(5)

MILLWORK (15)

PACIFIC MANUFACTURING COMPANY
San Francisco: 16 Beale St., GA 1-7755
Santa Clara: 2610 The Alameda, SC 607
Los Angeles: 6820 McKinley Ave., TH 4196

MULLEN MANUFACTURING COMPANY
San Francisco: 60-80 Rausch St., UN 1-5815

LUMBER MANUFACTURING COMPANY *(9)

PAINTING (16)

Paint

W. P. FULLER COMPANY *(7)

PLASTER (17)

Exteriors

PACIFIC PORTLAND CEMENT COMPANY*(4)

Interiors—Metal Lath & Trim

FORDERER CORNICE WORKS *(14)

PLASTIC CEMENT (f)

PACIFIC PORTLAND CEMENT CO.
San Francisco: 417 Montgomery St., GA 1-4100

PLUMBING (18)

THE SCOTT COMPANY *(8)

THE HALSEY TAYLOR COMPANY
Redlands, Calif.
Warren, Ohio

HAWS DRINKING FAUCET COMPANY
Berkeley 10: 1435 Fourth St., LA 5-3341

CONTINENTAL WATER HEATER COMPANY
Los Angeles 31: 1801 Pasadena Ave., CA 6178

SIMONDS MACHINERY COMPANY
San Francisco: 816 Folsom St., DO 2-6794
Los Angeles: 455 East 4th St., MU 8322

SECURITY VALVE COMPANY
Los Angeles 31: 410 San Fernando Rd., CA 6191

SEWER PIPE (19)

GLADDING, McBEAN & CO. *(1)

PACIFIC CLAY PRODUCTS
San Francisco: 605 Market St., GA 1-3970
Los Angeles, Portland, Salt Lake City

SHEET METAL (20)

Windows

DETROIT STEEL PRODUCTS COMPANY
Oakland 8: 1310 - 63rd St., OL 2-8826
San Francisco: Russ Building, DO 2-0890

MICHEL & PFEFFER IRON WORKS, INC. *(5)
SOULE STEEL COMPANY *(5)

Fire Doors

DETROIT STEEL PRODUCTS COMPANY

Skylights

DETROIT STEEL PRODUCTS COMPANY

STEEL—STRUCTURAL (21)

HERRICK IRON WORKS
Oakland: 18th & Campbell Sts., GL 1-1767

JUDSON PACIFIC-MURPHY CORP.
Emeryville: 4300 Eastshore Highway, OL 3-1717

REPUBLIC STEEL CORP.
San Francisco: 116 N. Montgomery St., GA 1-0977
Los Angeles: Edison Building
Seattle: White-Henry-Stuart Building
Salt Lake City: Walker Bank Building
Denver: Continental Oil Building

KRAFTILE COMPANY *(1)

SAN JOSE STEEL COMPANY
San Jose: 195 North Thirtieth St., CO 4184

STEEL—REINFORCING (22)

REPUBLIC STEEL CORP. *(21)
HERRICK IORN WORKS *(21)
SAN JOSE STEEL CO. *(21)

TILE (23)

GLADDING, McBEAN & CO. *(1)
KRAFTILE COMPANY *(1)
PACIFIC CLAY PRODUCTS
San Francisco: 605 Market St., GA 1-3970
Los Angeles, Portland, Salt Lake City

TIMBER—REINFORCING (b)

Trusses

WEYERHAEUSER SALES CO.
Tacoma, Wash.
St. Paul, Minn.
Newark, N. J.

Treated Timber

J. H. BAXTER CO.
San Francisco 4: 333 Montgomery St., DO 2-3883
Los Angeles 13: 601 West Fifth St., MI 6294

WALL TILE (24)

GLADDING, McBEAN & CO. *(1)
KRAFTILE COMPANY *(1)

WINDOWS STEEL 125)

DETROIT STEEL PRODUCTS CO. *(20)

MICHEL & PFEFFER IRON WORKS, INC.*
SOULE STEEL COMPANY *(5)

GENERAL CONTRACTORS (26)

DINWIDDIE CONSTRUCTION COMPANY
San Francisco: Crocker Building, YU 6-2718

CLINTON CONSTRUCTION COMPANY
San Francisco: 923 Folsom St., SU 1-3440

MATTOCK CONSTRUCTION COMPANY
San Francisco: 604 Mission St., GA 1-5516

STOLTE, INC.
Oakland: 8451 San Leandro Blvd., TR 2-1064

SWINERTON & WALBERG COMPANY
San Francisco: 225 Bush St., GA 1-2980
Oakland: 1723 Webster St., HI 4-4322
Los Angeles, Sacramento, Denver

P. J. WALKER COMPANY
San Francisco: 391 Sutter St., YU 6-5916
Los Angeles: 3920 Whiteside St., AN 9-8567

TESTING LABORATORIES (ENGINEERS & CHEMISTS) (27)

ABBOT A. HANKS, INC.
San Francisco: 624 Sacramento St., GA 1-16

ROBERT W. HUNT COMPANY
San Francisco: 251 Kearny St., EX 2-4634
Los Angeles: 3050 E. Sleuson, JE 9131
Chicago, New York, Pittsburgh

PITTSBURGH TESTING LABORATORY
San Francisco: 651 Howard St., EX 2-1747

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ATTENTION: The following are the PREVAILING hourly rates of compensation being paid and in effect by employers by agreement between employees and their union; or as recognized and determined by the U. S. Department of Labor. (Revised to Sept. 1, 1949.)

CRAFT	San Francisco	Alameda	Contra Costa	Fresno	Sacramento	Santa Clara	Solano	Stockton	Los Angeles	San Bernardino	San Diego	Santa Barbara	Kern
ASBESTOS WORKERS	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.25	$2.25	$2.25	$2.25	$2.25
BRICKLAYERS	3.00*	3.00	3.00	2.50	3.00	3.00	3.00	2.05*	2.265	2.50	2.50	2.625	2.50
BRICKLAYERS, HODCARRIERS	2.25	2.25	2.25	2.00	2.00	1.75	2.25	1.60*	1.75	1.75	1.75	1.75	1.75
CARPENTERS	2.16	2.16	2.175	2.175	2.175	2.175	2.175	2.175	2.12	2.12	2.12	2.12	2.12
CEMENT FINISHERS	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20
ELECTRICIANS	2.50	2.50	2.50	2.25	2.50	2.50	2.40	2.40	2.40	2.40	2.375	2.40	2.15
ELEVATOR CONSTRUCTORS	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.25	2.25	2.25	2.25	2.25
ENGINEERS: MATERIAL HOIST	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	1.9875	1.9875	1.9875	1.9875	1.9875
PILE DRIVER	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.32	2.32	2.32	2.32	2.32
STRUCTURAL STEEL	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.30	2.30	2.2375	2.30	2.30
GLAZIERS	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.96
IRONWORKERS: ORNAMENTAL	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.175	2.175	2.1125	2.175	2.175
REINF. RODMEN	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.20	2.20	2.20	2.20	2.20
STRUCTURAL	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.30	2.30	2.2375	2.30	2.30
LABORERS: BUILDING	1.55	1.55	1.55	1.45	1.55	1.45	1.55	1.55	1.57	1.57	1.57	1.57	1.57
CONCRETE	1.55	1.55	1.55	1.45	1.55	1.45	1.55	1.55	1.57	1.57	1.57	1.57	1.57
LATHERS	2.8125	2.8125	2.8125	2.8125	2.00*	2.50*	2.8125	2.8125	2.50	2.50	2.50	2.50	2.50
MARBLE SETTERS	2.375	2.375	2.375	2.375	2.375	2.375	2.375	2.375	2.25	2.25	2.25	2.25	2.25
MOSAIC & TERRAZZO	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.40	2.40	2.20	2.40	2.40
PAINTERS	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.00	1.90	2.10	2.18	2.25
PILEDRIVERS	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25
PLASTERERS	2.8125	2.50*	2.50*	2.25*	2.25*	2.50*	2.50*	2.8125	2.50	2.75	2.50	2.50	2.50
PLASTERERS, HODCARRIERS	2.50	2.25*	2.25*	1.775*	2.00*	2.00*	2.25*	2.16	2.15	2.25	2.30	2.00	2.00
PLUMBERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
ROOFERS	2.25	2.25	2.25	1.875	2.00	2.00	2.16	2.25	2.25	2.00	1.90	2.00	2.00
SHEET METAL WORKERS	2.25	2.25	2.25	2.125	2.30	2.40	2.125	2.125	2.15	2.15	2.175	2.00	2.15
SPRINKLER FITTERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.25	2.25	2.25	2.25	2.25
STEAMFITTERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
STONESETTERS (MASONS)	3.00	2.8125	2.8125	2.25*	2.8125	2.8125	2.8125	2.05*	1.50	1.50	1.50	2.625	1.715
TILESETTERS	2.675	2.675	2.675	2.15	2.00	2.675	2.675	2.4375	2.50	2.50	2.20	2.50	2.25

* 6 Hour Day. ** 7 Hour Day.

Prepared and compiled by:
CENTRAL CALIFORNIA CHAPTER, ASSOCIATED GENERAL CONTRACTORS OF AMERICA, with the assistance and cooperation of secretaries of General Contractors Associations and Builders Exchanges of Northern California; and the above information for southern California is furnished by the Labor Relations Department of the Southern California Chapter, ASSOCIATED GENERAL CONTRACTORS OF AMERICA.

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CLARK'S DESERT INN

(From Page 15)

occurs. Because of the multi-colored effect, it will never be necessary to clean an entire wall where only a small amount of damage has occurred.

Walls in individual guests rooms and suites are treated with great color variation and individuality. Often the use of two or three blending wall colors are used for further drama.

Emphatic decorative accents are accomplished with pinto-pony fur framed mirrors, unusually tall, suede-shaded lamps. Chain suspended, metal shades are used to light large cocktail tables and many wide expanses of glass walls and archways emphasize spaciousness.

The Celebrity Room, a private dining room, features wood paneling and an unusual, pale persimmon color for decor. Photos of celebrities of national and international importance are being autographed from time to time at the completion of their stay at Desert Inn, and will eventually line the walls. A rawhide bar, ornamented with stylized steer heads of raw leather belting is an important part of the furnishings which include olive green covered chairs and plaid draperies.

The Ladies Powder Room, centrally and conveniently located near all public rooms, is particularly spacious and airy. Swivel chairs in front of mirrors are covered in softly toned rose mohair. A huge circular lounge offers added comfort. Lighting simulates daylight for better application of make-up.

"Backstage" facilities in the theatre-dining room have in no way been neglected. There are commodious dressing rooms with private baths for performers. The kitchen, though rarely seen by guests, is the last word in efficient equipment and is designed entirely in stainless steel.

Wilbur Clark, president of Wilbur Clark's Desert Inn, announced recently that Jac Lessman, has been authorized to draw plans and let contracts for an addition to the present hotel involving 125 rooms and a Health Club.

Cost of the addition will be $1,250,000. The improvement will enlarge to 400 the number of rooms.

According to Clark, the new structure will be designed in fieldstone and redwood, matching the present buildings. It will contain nothing but de luxe rooms and suites. It will be three stories high and elevator serviced.

In order to accommodate the addition, the Desert Inn recently acquired an additional plot of land 1,500 feet by 500 feet to the north of the present seventeen acres now occupied.

All of the rooms will face the figure-eight swimming pool in the play court. The Kachina Doll Ranch, which has proved so popular with the younger set (eight years and under) will be moved to the east of the tennis courts in order to make room for the improvement.

"The Health Club will include Turkish Baths, an exercise room, and squash courts," Lessman explained. "Solar glass will be used on the roof of the solarium so that the healthful rays of the sun can be enjoyed in both summer and winter months with perfect comfort."

ARCHITECT SELECTED

William Hastrup of Fresno has been selected by the Washington Union High School District of Easton (Fresno county) to draft plans for the addition of an auditorium, classrooms and a shop building to the Easton High School.

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CONSTRUCTION CONTRACTS AWARDED AND MISCELLANEOUS PERSONNEL DATA

OFFICE BUILDING ADDITION, San Francisco. Bancroft Whitney Co., owner. $98,000. ARCHITECT: Ward & Bolles, San Francisco. Add 1 story to present 2 story building, reinforced concrete & structural steel construction. GENERAL CONTRACTOR: Russell A. Cullen, Inc., San Francisco.

HOSPITAL ADDITION, Richmond, Contra Costa County. Richmond Hospital, owner. New wing & 3rd story addition, 27 beds, 4 surgeries, new lobby & offices, $141,906. ARCHITECT: Chas. Strothoff, San Francisco. 2 story, new wing and addition 1 story to present 2 story building reinforced concrete construction. GENERAL CONTRACTOR: Elmer J. Freethy, El Cerrito.

TWO RETAIL SHOPS & MARKET BUILDING. San Francisco. Metropolitan Life Insurance Co., owner, $400,000. ARCHITECT: Leonard Schutz, New York City. One-story reinforced concrete construction. GENERAL CONTRACTOR: Starrett Bros. & Eken, Inc., San Francisco.

CORNELL GRAMMAR SCHOOL UNIT B. Albany, Alameda County. Albany Unified School District, owner. Admin. unit, 2 classrooms, cafeteria, kitchen, library, lunch room, $135,759. ARCHITECT: Young & Lloyd, Albany. One and two-story, reinforced, concrete construction. GENERAL CONTRACTOR: A. F. Stewart, Berkeley.

GIRLS' GYMNASIUM & BOYS' SHOWER LOCKER BUILDING. Red Bluff, Tehama County: Red Bluff Union High School District, owner. $118,933. ARCHITECT Thomson & Evans, Oakland. Structural steel frame and frame and stucco construction. GENERAL CONTRACTOR: J. P. Brennan, Red Bluff.

DIABLO VISTA GRAMMAR SCHOOL, Pleasant Hills, Contra Costa County, Mt. Diablo Unified School District, Concord. Nine classrooms, kindergarten, office and toilet rooms, $184,200. ASSOCIATED ARCHITECTS: Anderson & Simonds; Confer & Willis; Reynolds & Chamberlain; John Lyon Reid, Oakland. Reinforced concrete and frame construction. GENERAL CONTRACTOR: Robert Bardell, Oakland.

MEDICAL BUILDING, Sacramento, Sacramento County. Dr. Walter N. Becker, owner, $40,000. ARCHITECT: G. R. Messick, Jr., Sacramento. One-story, frame and brick veneer construction. GENERAL CONTRACTOR: United Construction Company, Sacramento.

WASHINGTON MANOR GRAMMAR SCHOOL, San Lorenzo, Alameda County, San Lorenzo Elementary School District, owner. Eight classrooms, offices and toilet room, $125,065. ARCHITECT: Dragon, Schmidts & Hardman, Berkeley. Frame and stucco construction. GENERAL CONTRACTOR: C. R. Hills, San Leandro.

TWO FIRE HOUSES, Merced, Merced County, City of Merced, owner. $40,458. ARCHITECT: Robt. R. Jones, Carmel. One-story concrete block and frame construction. GENERAL CONTRACTOR: Ace Builders, Merced.

CITRUS FAIR PAVILION BUILDING, Cloverdale, Sonoma County. Cloverdale Chamber of Commerce, owner. $120,000. ARCHITECT: Oleg N. Ivanitsky, San Francisco. One-story 20,000 sq. ft. concrete block, structural steel and frame construction. SUPERINTENDENT OF CONTRACTS: Dave Davini, Cloverdale.

MARKET BUILDING. Santa Rosa, Sonoma County. Espindila's NU - Way Market, owner. $42,575. ARCHITECT: J. Clarence Felciano, Santa Rosa. 1 story, concrete block, wood roof trusses. GENERAL CONTRACTOR: Wm. D. Rapp, Santa Rosa.

SHOPPING CENTER. Fresno, Fresno County. O. J. Woodward, owner, $50,000. PLANS BY: Earl E. Scott. One-story, 100-100 brick walls, structural steel frame, shake roof. GENERAL CONTRACTOR: J. T. Cowan, Fresno.

ST. JOSEPH CONVENT, Sacramento, Sacramento County. Roman Catholic Bishop of Sacramento, owner. Twenty rooms and chapel, $144,826. ARCHITECT: Harry J. Devine, Sacramento. Two-story, reinforced concrete construction. GENERAL CONTRACTOR: Edwin J. Mackey, Sacramento.

OFFICE BUILDING. Oakland, Alameda County. Geo. W. Carter, owner. $70,000. PLANS BY: Cejay Parsons, San Marino. Brick and frame construction. OWNER BUILDS AND AWARDS SEPARATE CONTRACTS.

HIGH SCHOOL ADDITION. Anderson, Shasta County, Anderson Union High School District, owner. Ten classrooms, reading room, administration, boiler room and toilet room, $255,466. ARCHITECT: Masten & Hurd, San Francisco. Reinforced concrete construction, wood roof. GENERAL CONTRACTOR: B & R Construction Co., San Francisco.

HOSPITAL BUILDING. Loyalton, Sierra County. Sierra Valley Hospital District, owner. $143,930. ARCHITECT George C. Sellon, Sacramento. Concrete block and frame and some structural steel. GENERAL CONTRACTOR George S. Latin, Grass Valley.

GRAMMAR SCHOOL ADDITION. Carmichael, Sacramento County. Carmichael Elementary School District, owner. Three classrooms. $42,500. ARCHITECT Raymond R. Franceschi, Sacramento. Frame and brick veneer construction. GENERAL CONTRACTOR, Harold E. Peterson, Sacramento.

LODI MEMORIAL HOSPITAL, Lodi, San Joaquin County. Lodi Memorial Hospital Association, owner. Fifty beds, $900,000. ARCHITECT W. D. Peugh, San Francisco. Three-story, reinforced concrete construction, steel windows, linoleum and asphalt tile floors, 2 elevators. GENERAL CONTRACTOR Moore & Roberts, San Francisco.

HIGH SCHOOL ADDITION. Live Oak, Sutter County. Live Ook Union High School District, owner. Library, administration, band room and science room, $61,330. ARCHITECT Chas. F. Dean, Sacramento. Frame and stucco construction. GENERAL CONTRACTOR Fife & Stoddard, Gridley.

MACARONI FACTORY, San Leandro, Alameda County. Golden Grain Macaroni Co., owner. $183,732. CONSULTING ENGINEER: Myron Gould & Assocs., San Francisco. One-story, reinforced concrete and structural steel construction, steel storage bins. Office: Frame and stucco construction. GENERAL CONTRACTOR: Christensen & Lyons, Oakland.

ARDEN GRAMMAR SCHOOL ADDITION, Sacramento, Sacramento County. Arden Elementary School District, owner. ARCHITECT: Gordon Stafford, Sacramento. Frame and stucco construction. GENERAL CONTRACTOR: J. A. Waterbury & Fred Chapek, Sacramento.

YACHT CLUB. San Francisco. St. Francis Yacht Club, owner. $201,000. ARCHITECT: W. D. Peugh, San Francisco. Interior and exterior remodel. GENERAL CONTRACTOR: W. C. Tait Co., San Francisco.

CHURCH. Colfax, Placer County. Roman Catholic Bishop of Sacramento, owner. St. Dominic Parish, $43,000. ARCHITECT: Harry J. Devine, Sacramento. Reinforced concrete and frame construction. GENERAL CONTRACTOR: Fred Chapek, Sacramento.

HIGH SCHOOL ADDITION, Coalinga, Fresno County. Coalinga Union High School District, owner. Cafeteria, boys and girls shower and locker buildings, $26,488. ARCHITECT: Falk & Assoc., San Francisco. Reinforced concrete and frame construction. GENERAL CONTRACTOR L. H. Hansen & Sons, Fresno.

HERBERT HOOVER JR. HIGH SCHOOL ADDITION, San Jose, Santa Clara County. San Jose Board of Education, owner. Gymnasium, cafeteria and shop building, $468,883. ARCHITECT: Birge M. Clarke & Walter Stromquist, Palo Alto. GENERAL CONTRACTOR: Nielson & Nielson, San Jose.

FIRE HOUSE, San Francisco. City and county of San Francisco Department of Public Works, owner. $204,113. ARCHITECT: J. S. Gould, San Francisco. One-story, reinforced concrete and frame construction, 2 dormitories, kitchen living room. GENERAL CONTRACTOR Ira H. Larsen.

ADMINISTRATION BUILDING, Santa Cruz, Santa Cruz County. Santa Cruz Board of Eudcation, owner. $53,229. ARCHITECT: Lyn Duckering, Santa Cruz. One-story, frame and stucco construction. GENERAL CONTRACTOR: T. H. Rosewall, Watsonville.

THIRTY-ONE 2-UNIT FRAME DWELLINGS, Delano, Kern County. Public Housing Authority, owner. $417,500. ARCHITECT: Ernest L. McCoy, Bakersfield. One-story, frame construction, composition shingle roofs, aluminum sash, asphalt tile floors, 24x43 to 28x87 ft. GENERAL CONTRACTOR: Geo. A. Thatcher, Hollywood.

GEO. HALL GRAMMAR SCHOOL ADDITION, San Mateo, San Mateo County. San Mateo Elementary School District, owner. Four classrooms, toilet rooms, $90,360. ARCHITECT: Falk Associates, San Francisco. Frame and stucco construction. GENERAL CONTRACTOR Wilfred H. May, Belmont.

BANK BUILDING REMODEL, Santa Cruz, Santa Cruz County. Farmers & Merchants National Bank, owner. $100,000. ARCHITECT: Rudolph Igaz, Jr., San Francisco. Two-story, new basement, new mezzanine, new elevator and interior remodel. GENERAL CONTRACTOR: Pacific Coast Builders, San Francisco.

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PETER BARNETT GRAMMAR SCHOOL, Sacramento, Sacramento County. Sacramento Board of Education, owner. Ten classrooms, kindergarten, offices and toilet rooms, $274,744. ARCHITECT: Raymond R. Franceschi, Sacramento. Frame and stucco construction. GENERAL CONTRACTOR: Lawrence Const. Co., Sacramento.

ELEMENTARY SCHOOL, Reno, Nevada: Huffaker School District No. 9, owner; 3 classrooms, auditorium stage, kitchen, toilet, $88,450; ARCHITECT: Ed. S. Parson, Reno. Brick and hollow tile construction. GENERAL CONTRACTOR: Walker Boudwin Construction Co., Reno.

LOUIS VAN METER GRAMMAR SCHOOL ADDITION, Los Gatos, Santa Clara County, Los Gatos Elementary School District, owner. 7 classrooms, cafeteria and toilet room, $165,527. ARCHITECT: Chas. E. Butner, San Jose. Frame and stucco construction. GENERAL CONTRACTOR: E. A. Hathaway & Co., San Jose.

APARTMENT BUILDING, San Francisco, M. Destano, owner. $92,000. ARCHITECT: H. C. Baumann, San Francisco. 3 story, frame and stucco construction. Owner builds and awards separate contracts.

MARKET BUILDING & STORE BUILDING, Berkeley, Alameda County; Frank Andronica, owner. $88,777. ARCHITECT: Paul Hammarberg, Berkeley. Market: 1 story 85 x 115 concrete block and frame. Store: 38 x 60, frame and stucco construction. GENERAL CONTRACTOR: Marvin E. Collins, El Cerrito.

VETERANS MEMORIAL BUILDING, Gilroy, Santa Clara County; Southern Santa Clara Valley War Memorial District, owner. $70,119. ARCHITECT: Kurt Gross, San Jose. ENGINEER: W. J. Hanna Gilroy. 1 story concrete block and frame construction, basolt shingle, tile roof. GENERAL CONTRACTOR: Wm. Radtke & Son, Gilroy.

LUCKY MARKET BUILDING, Hayward, Alameda County; Thompson Realty Co., owner. $140,683. ARCHITECT: Lloyd Gartner, San Francisco. 1 story and mezzanine, 90 x 160 reinforced concrete construction, wood roof trusses, structural steel, porcelain enameled tower, roman brick, aluminum and plate glass front. GENERAL CONTRACTOR: Williams & Burrows, Burlingame.

BANK BUILDING ADDITION, Sacramento, Sacramento County; Anglo California National Bank, owner. $498,500. ARCHITECT: Harry J. Devine, Sacramento. 2 story and basement and mezzanine, 40 x 160 reinforced concrete. GENERAL CONTRACTOR: Campbell Construction Co., Sacramento.

CHURCH BUILDING, San Francisco; Roman Catholic Archbishop of San Francisco, owner. Parish of the Epiphany, $312,000. ARCHITECT: Wm. E. Sehirmer & Wm. A. Rich, Oakland. Reinforced concrete construction. GENERAL CONTRACTOR: Cahill Bros., San Francisco.

PARISH HALL & SUNDAY SCHOOL ADDITION, Sacramento, Sacramento County; St. Luke's American Lutheran Church, owner. $85,000. ARCHITECT: Chas F. Dean, Sacramento. Brick and frame construction. SUPT. OF CONSTRUCTION: Dan Enns, Sacramento.

STORE BUILDING, Eureka, Humboldt County; Pacific States Savings & Loan Co., owner. $236,856. PLANS BY: Lea Roselyn Co., San Francisco. 1 story, basement and mezzanine, reinforced concrete, structural steel and wood construction. GENERAL CONTRACTOR: Jacks & Irvine, San Francisco.

WREN AVENUE GRAMMAR SCHOOL, Concord, Contra Costa County; Mt. Diablo Unified School District, owner. $178,700. ARCHITECT: Reynolds & Chamberlain, Anderson & Simonds, Confer & Willis, John Lyon Reid, Oakland. Frame and stucco construction. GENERAL CONTRACTOR: California Builders Co., Oakland.

FOOD RESEARCH LABORATORY BUILDING, Berkeley, Alameda County; National Canners Assoc., owner. $300,000. ARCHITECT: Wurster, Bernardi & Emmons, San Francisco. 2 story, reinforced concrete construction. GENERAL CONTRACTOR: Carl N. Swensen Co., San Jose.

WAREHOUSE, Oakland, Alameda County; Poultry Producers of Central California, owner. $72,000. ARCHITECT: Alben Froberg, Oakland. 1 story, 100 x 200, reinforced concrete, brick and frame construction. GENERAL CONTRACTOR: Christensen & Lyons, Oakland.

NORTHWOOD SCHOOL ADDITION, North Sacramento County; North Sacramento Elementary School District, owner. 4 temporary classrooms and toilet rooms, $44,700. ARCHITECT: Koblik & Fisher, Sacramento. Frame construction. GENERAL CONTRACTOR: Continental Construction Co., Sacramento.

BUILDERS EXCHANGE BUILDING, Sacramento, Sacramento County; Sacramento Builders Exchange, owner. $75,000. ARCHITECT: Leonard F. Starks, Sacramento. 1 story, frame and brick veneer construction. GENERAL CONTRACTOR: United Construction Co., Sacramento.

HIGH SCHOOL ADDITION, Los Gatos, Santa Clara County; Los Gatos High School District, owner. Agricultural Shop. $71,282. ARCHITECT: Chas. E. Butner, San Jose. Concrete block and frame construction. GENERAL CONTRACTOR: Earl W. Heple, San Jose.

NEW BUS DEPOT, Reno, Nevada; Pacific Greyhound Lines, owner. $345,000. ARCHITECT: E. Keith Lockhard, Reno. 1 and 2 story, reinforced concrete construction. Will contain restaurant, waiting room ticket office, dormitories. GENERAL CONTRACTOR: J. Brock & sons, Reno.

COLUMBARIUM ADDITION, Oakland, Alameda County; California Crematorium, Inc., owner. $89,850. ARCHITECT: John D. Wagenet, San Francisco. Reinforced concrete, Marble and bronze interior. GENERAL CONTRACTOR: C. M. Teigland, Berkeley.

GRAMMAR SCHOOL ADDITION, Almaden, Santa Clara County; Almaden Union Elementary School District, owner. 2 classrooms, $30,000. ARCHITECT: Peter Kump, San Francisco. Frame and stucco construction. GENERAL CONTRACTOR: Earl W. Emley, Saratoga.

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IN THE NEWS

STATE AND FEDERAL MEMORIAL HOSPITAL FUNDS APPROVED

The Lodi Memorial Hospital Association has announced the completion of working drawings and the granting of State and Federal funds in the amount of $329,217 for the construction of a $1,000,000 Memorial Hospital at Lodi (California).

W. D. Peugh of San Francisco has been selected as the architect for the building which will comprise three stories and be of reinforced concrete and steel construction. It will contain fifty-seven beds plus necessary service facilities.
048.

EXCUSE PLEASE

In the May issue of A & E an item appeared stating that the Director of Public Works for San Francisco had commissioned the firm of Bliss & Hurt to prepare drawings for Girls High School amounting to $1,000,000.

The item should have stated that the commission was granted to the firm of Bliss & Hurt, Trudell & Berger, Architects.

NEW JUNIOR COLLEGE

Bonds have been voted for the construction of a new Junior College and High School addition in Porterville (California). Cost of the proposed construction is $1,420,000.

STATLER HOTEL TO BUILD IN DOWNTOWN DALLAS

The Hotels Statler Company have announced plans to build an 800-room hotel in downtown Dallas, according to an announcement by Arthur F. Douglas, president.

Architects have been instructed to begin plans for the hotel and construction will start immediately.

IS NAMED OFFICIAL

F. Ray Friedley has been elected a director and Comptroller of Geneva Steel Company and Columbia Iron Mining Company, Geneva, Utah.

He succeeds C. B. Vernooy who leaves Utah to become Assistant Comptroller of the U. S. Steel Corporation of New Jersey in New York City.

CONDUIT STANDARD ANNOUNCED

Three new standard specifications for conduit and tubing used as raceways for electric wiring and cables have been announced by the American Standards Association.

They cover zinc coated and enameled rigid steel conduit, and zinc coated electrical metallic tubing, and are based upon specification provisions of the Underwriters' Laboratories, Inc.

SCHOOL BONDS APPROVED

The Fresno (California) Board of Education recently announced that voters of Fresno had approved the issuance of $9,925,000 in school bonds with the funds to be used in the construction of two new Junior High Schools, a new Senior High School, and additions to the grammar schools reprosening some 120 classrooms.

NEW SHOPPING CENTER

Architect Gifford E. Sobey of Los Gatos is working on a proposed Shopping Center to be built near Los Gatos in the near future.

The project includes buildings to accommodate up to thirty stores and will cost an estimated $350,000.

TWIN APARTMENT BUILDING

The Lakeside Towers Corporation of Oakland have announced the proposed construction of twin apartment buildings in Oakland at an estimated cost of $1,000,000.

The buildings will contain 96 apartments and will be of 8-story reinforced concrete construction.

NEW HOSPITAL BUILDING

The Eden Township Hospital District of Hayward (California) will construct a 118-bed Hospital in the Castro Valley near Hayward at a cost of $2,500,000.

The hospital will be a 4-story building of reinforced concrete construction.

D. D. Stone & Lou Mulloy of San Francisco are the architects.

NEW RESORT HOTEL

The Country Club Realty Corporation of Nevada have announced the construction of a new Resort Hotel near Reno at a cost of $2,500,000.

The project includes a main building, cottages and a glassed in swimming pool. Facilities will contain 200 rooms and baths.

AIR FORCE HOUSING

Claude T. Lindsay, Inc., San Francisco, has been awarded a contract for the construction and operation of a 500-unit air force housing project at Hamilton Field, California.

The project, which will cost $5,000,000, will contain 300 units for airmen and families and 200 units for officers and families.

STATE FUNDS ALLOCATED

The State of California has announced the allocation of funds for the following construction projects:

Tracy, 3 grammer schools, $798,021; Humboldt county, McKinleyville Union School District, $256,140—Trinity Valley Joint Union School District, $129,234—Rio Dell Elementary District, $265,000; Fresno county, Scandinavian Elementary School, $476,884—Orange Center Elementary School, $350,888—American Elementary School, $360,615—Pinedale Elementary School, $458,891—Houghton-Kearney Elementary School, $111,055—Dunlap Elementary School, $92,423—Madison Elementary School, $554,526, and Kings River Union Elementary School, $271,000.

Tulare county, Reedley Joint Union District, $815,052—Alta Vista Elementary District, $352,670—Dinuba Elementary District, $862,212, Kings county, Corcoran Elementary District, $1,885,389.

Sacramento county, Sutterville Heights School District, $1,200,000 — North Sacramento School District, $1,188,482, and Fruit Ridge School District, $827,818; San Joaquin county, Montezuma School District, $418,146 and Tracy School District, $789,021.

Placer county, Rocklin Elementary School District, $247,405—Forest Hill School District, $165,075 and Penryn School District, $120,188; Amador county, Ione Union School District, $142,389, and Shasta county, the Union Elementary School District, $507,419.

ARCHITECT SELECTED

Robert C. Kaestner, architect of Visalia, has been selected as the architect for the new Junior College and High School Addition to be built for the Porterville Union High School and College District at Porterville.

The project will represent an expenditure of about $1,420,000, according to preliminary estimates.

NAMED ASSISTANT DIRECTOR

Herald E. Bolin has been named assistant director in charge of the FHA Insuring Office at Spokane, Washington, according to a recent announcement by Franklin D. Richards, FHA Commissioner.

Bolin, widely known in banking and real estate circles in eastern Washington, has been serving as Administrative Officer of the Spokane FHA office.

ART BUILDING ADDITION

The Stockton Board of Education has approved preliminary plans for the contruction of an Art Building at Stockton College.

The plans submitted by architects Mayo and Johnson, Stockton, call for a two-story reinforced concrete building which will cost approximately $540,000.

SCHOOL BID REJECTED

The Rio Vista Elementary School District has rejected a bid of $355,317 for the contruction of a gymnasium, cafeteria, music room, and shop addition to the Rio Vista Grammar School.

Drago-Schmidts & Hardman of Berkeley are the architects.

ARCHITECT OPENS OFFICE

The architectural firm of Gruen & Krummeck has opened an office in the Industrial Bank Building, Detroit, Michigan for the general practice of architecture according to a recent announcement by Victor Gruen, A.I.A. senior partner of the firm.

Main offices are maintained in Los Angeles, with branch offices in San Francisco, as well as Detroit.

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PARTNERSHIP FORMED

Whitney R. Smith and Wayne R. Williams, architects, have announced the formation of the architectural firm of Smith and Williams, Architects, for the practice of Architecture and Planning.

Offices of the new partnership have been opened at 204 South Los Robles Avenue, Pasadena.

HOUSING PROJECT

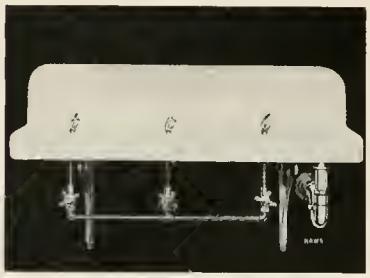
The Housing Authority of the City of Fresno will soon start construction on a low income housing project comprising some 170 units.

Of reinforced concrete and frame construction, the buildings will cost some $1,250,000 when completed.

R. W. Steven, Fresno, is the architect.

NEW DRINKING FOUNTAIN

A new multiple-head drinking fountain, wall hangar type, has been announced by the Haws Drinking Faucet Company of Berkeley, known as No. 10B.



It features the popular Haws "M" head; has an enameled iron recepter with an 8-inch high back; a three-inch full apron and comes equipped with cast iron wall bracket for quick, simple installation. It is particularly adaptable for installation in schools, gymnasiums, large offices, industrial plants and where large numbers of users are served.

BRANCH LIBRARY

The City and County of San Francisco will soon build a new Parkside Branch Library at the corner of 22nd Avenue and Taraval Street in San Francisco, according to an announcement by Dodge A. Reidy, City Architect.

Actual design of the building will be prepared by Appleton & Wolfard, achitects of San Francisco.

OFFICE BUILDING REJECTED

Bids for construction of a 2-story and basement office building for the Alameda County-East Bay Title Insurance Company in Oakland, were recently rejected by Architects W. G. Corlett and A. W. Anderson, representatives of the owners.

Original estimates of the construction were placed at $479,000.

NEW GYMNASIUM

The Red Bluff Union High School District have announced plans to build a new girls' gymnasium, boys' shower, and locker building at an estimated cost of $117,857.

Thomsan & Evans of Oakland, are the architects.

NEW HOSPITAL BUILDING

The Seneca Hospital District of Chester, Plumas county, will construct a $200,000 Hospital Building of ten beds at Chester.

D. D. Stone and Lou Mulloy, San Francisco, are the architects.

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• ARCHITECT AND ENGINEER

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Book Reviews

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COVER PICTURE:

THE AHWAHNEE TERRACE as seen from the East . . . Headquarters of the Annual Convention of the California Council of Architects, A.I.A., which will be held in Yosemite from September 28 to 30th.

For complete convention details and program see Page 10.

ARCHITECT & ENGINEER is indexed regularly by ENGINEERING INDEX, INC.

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SEPTEMBER

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. EDITORIAL NOTES .

ARCHITECTURAL SERVICE DOES NOT STOP WITH DRAWING PLANS

For much too long a time, the average inexperienced person has had the misconception that the primary function of the Architect is merely to accumulate the "ideas" of the client and then transmit them into something tangible such as a set of "Plans".

Through a better professional understanding, stimulated by The American Institute of Architects and in cooperation with local A.I.A. State and regional Chapter's throughout the nation, great strides have been made in the past few years in establishing in the public's mind the fact that Architectural services include a great many essential factors past the point of merely producing a set of "Plans".

Architectural services today represent the ultimate in design, utility, site and community planning, financial stability, and construction economy . . . today's Architectural service is a far cry from the professions pioneering functions.

* * *

DISREGARD THE RUMORS

A recent wave of totally unfounded reports of new regulations, new restrictions, and added controls has had a tendency to confuse many factors of, and many persons in the construction industry. These often repeated rumors are all vague in nature but do have the one common characteristic that "government" favor will be of paramount importance.

In the housing field for example, rumor has it that government-insured construction will have a preferred position in securing building materials and labor, as against privately financed home construction.

And because of these fictitious rumors there has been a steady rush of applications for FHA and VA financing.

If anything can be determined by previous governmental action and if an all-out war does come, it is presumed the authorities in charge will follow the precedent established earlier in the year and no preference will be given government-insured construction.

The National Association of Home Builders of the United States has offered some pretty good advice to its members in the following quoted suggestion:

"It is important that you proceed with your housing construction in an orderly fashion, both in the planning, the financing, and the purchase of materials. Panic buying, hoarding, or out-bidding your competitor for scarce materials will have only one result—control and price fixing.

It is well to remember that in time of peace or war, your nation and your government needs all industry on a sound and profitable basis. The best way to keep any business sound is to become aware of, and recognize the facts—but, disregard the rumors.

* * *

ECONOMIC CONDITIONS ARE GOOD

Fortunately, American conditions and institutions on the whole are favorable to economic progress.

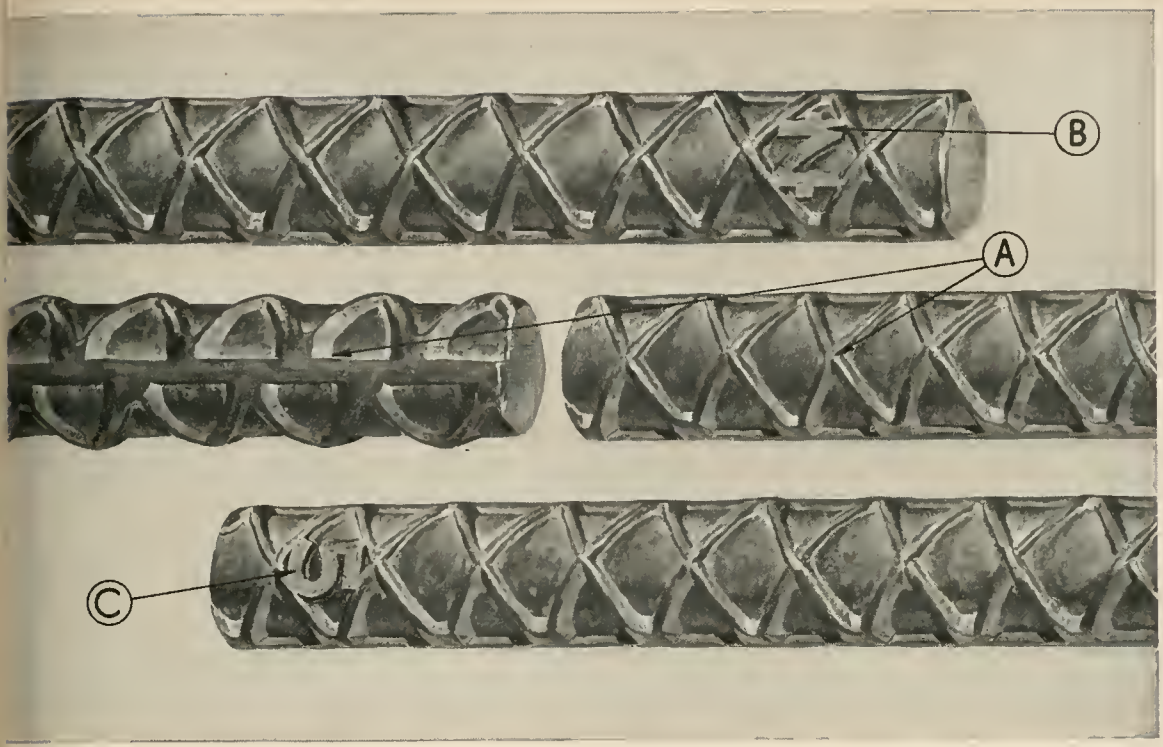
The country is remarkably well equipped to improve technology . . . There is vigorous competition in the economy between products and processes . . . There is a tradition of rapid scrapping of equipment. The volume of savings is large. The large number of business enterprises—four million outside of agriculture and six million in agriculture —tends to make the economy dynamic . . . Since there are so many places where the improvement may originate, enterprises must be on the alert to improve their methods and products.

This adds to the competitiveness of the economy. Finally, the American market is a large one and the rewards reaped by the most successful concerns are correspondingly large. Thus the incentive to be progressive and superior is great.

These fundamentally favorable conditions for advance in productivity indicate that the country has a good opportunity to raise real wages as rapidly in the future as in the past.

In this day and age when the operations of the economy depend so largely upon the policies of business, trade unions and the government, a responsibility rests upon managers, trade union leaders, and public officials alike to encourage more production. Since public policies affect industry on a far greater scale than ever before, the need of government policies that encourage production is especially great.

If the leaders of industry, labor and government have a deep concern with rising wages, if they plan with foresight and wisdom, the success of the country in advancing wages should be no less in the future than in the past.



A reinforcing bar from Columbia that really bites and holds

And it bears the quality mark of the Concrete Reinforcing Steel Institute

When U·S·S DI-LOK re-bar sinks its teeth into a concreting job, you know the grip is there to stay. For DI-LOK'S special deformation design reduces cracking to a minimum and provides for maximum tensile pull. Lowers construction costs, too... by reducing the length of splices and usually eliminating the need for hooks. Columbia's re-bar is made from U·S·S Steel—and its new-billet steel meets ASTM A-15-39 specification for quality. Its pattern meets ASTM A-305-49 specification for deformations. On your next job discover a new standard of construction efficiency . . . specify U·S·S DI-LOK Reinforcing Bar.

A. Deep, rugged diamond-lock deformation gives positive grip without slippage. Builds maximum bond between steel and concrete.

B. The quality mark of the Concrete Reinforcing Steel Institute shows bars are rolled from new-billet steel to meet ASTM A-15-39 specification.

C. Size numbers on each bar make office, shop and field measurement easy... without time-taking measurements and possibility of error.

U·S·S DI-LOK re-bars available in these sizes

BAR NO.	3	4	5	6	7	8	9	10	11
SIZE (Rounds)	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1"	1-1/8"	1-1/4"
AREA (Sq. in.)	0.11	0.20	0.31	0.44	0.60	0.79	1.00	1.27	1.56
WEIGHT (Pounds per lineal ft.)	0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313

Specify U·S·S DI-LOK—the reinforcing bar that passes every test

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UNITED STATES STEEL

NEWS AND COMMENT ON ART

CITY OF PARIS

Beatrice Judd Ryan, Curator of the Rotunda Gallery of the City of Paris, San Francisco, has arranged a special exhibition of French Modern Masters for September.

Works will include Vlaminck, Rouault, Dufy, Laurencin, Utrillo, Bombois, Florquin as well as Henri Jannot and a group of contemporary French artists.

The exhibit may be seen on the fourth floor of the store.

The Pictures of the Month will feature drawings and etchings by Degas, Rouault, Picasso, Lautrec, Constantin Guys, and Paul Klee.

Scheduled for October is a group exhibition which will commemorate the Centennial of the City of Paris and the fifth year of the Rotunda Gallery. Included in the exhibit will be the works of Jane Berlandina, Thomas Breeze, Dong Kingman, Raymond Puccinelli from the east, and Frances Baldwin, Helen Bruton, William Gaw and forty other artists from the west.

PORTLAND ART MUSEUM

The President and Trustees of the Portland Art Association announced the opening of the Portland Art Museum season for 1950-1951, with a special exhibition of the Charles E. McCulloch Collection; Paintings by Loren MacIver and I. Rice Periera; the First Annual Drawings by Oregon Artists; and the Minor White Photographs of two Portland homes.

Public opening of the Museum was preceded by a reception on September 7th.

The Museum is located at West Park and Madison in Portland.

CALIFORNIA SCHOOL OF FINE ARTS

The California School of Fine Arts, 800 Chestnut Street, San Francisco, has added a new course in Textile Design to the curriculum of the Fall semester. The course will be taught by Trude Guermonprez, internationally known European expert, and will cover the theory and practice of textile making and the design and execution of patterns.

Other new courses added to the Fall term are Fashion Design with Val MacDonald of San Francisco instructor; Interior Design with Maurice Sands, decorator, and Squire Knowles, industrial designer instructors; Silk Screen Printing, Robert McChesney instructor; Typography, Baldassare Armato, instructor; and Jean Varda will return to teach a course in Collage.

In the evening classes, available to both beginners and advanced students, are Drawing and Color, instructed by Elmer Bischoff; Life Drawing taught by James Weeks; Oil and Watercolor Techniques with William Gaw the instructor; and Oils by David Park.

SAN FRANCISCO MUSEUM OF ART

The San Francisco Museum of Art, War Memorial Building, Civic Center, San Francisco, will exhibit the 14th Ceramic National of The Syracuse Museum of Art during September.

Organized by the Syracuse Museum of Fine Arts and the Onondaga Pottery Company shows some 210 ceramic sculptures, pottery, and an additional section devoted this year to commercial dinnerware design. Various kinds of non-objective and abstract work appear among the more conventional sculptures and applied ceramic designs. Of particular interest is the trend towards the use of strong color—brilliant yellows, blues and reds.

Other Exhibitions for September will include Paintings by Alfred Maurer; Telesis—The Next Million People; New Works by Ruth Amer, Leah Rinne Hamilton and James McCary; New Directions in Modern Painting; House in Mexico by Anshen and Allen; Contemporary Fabrics and Domestic Lighting; Photographs by Wynne Bullock, Harry W. Hartman, and George M. Fekula, and White Sands Portfolio by Brett Weston.

The Sketch Club wil resume its weekly studio meetings on Friday evenings under the direction of John Humphrey, with the afternoon meetings being discontinued.

Children's weekly art classes will resume on Saturday mornings with classes being conducted by Marie Sandow. Classes 10 to 11, children 6 to 14 years of age.

The Famous Film Series will be shown on Tuesday evenings at 8:30 and the Know Your World Film Series will be shown Sunday afternoons at 2:30.

M. H. de YOUNG MEMORIAL MUSEUM

Walter Heil, director of the M. H. de Young Memorial Museum in Golden Gate Park, San Francisco, calls attention to the fact that September is the last month to view the Vienna Treasurers. In order to assist the public in viewing this exhibit a special schedule of tours has been planned with night tours on Wednesdays until 10 p.m., Saturdays and Sundays the Museum will remain open until 7 p.m. and the balance of the week the Museum will close at 5 p.m., with opening daily and Sundays at 10 a.m.

In the permanent Exhibitions are many examples of the fine and applied arts and in the Historical Collections section are many interesting views and portraits of early California.

Landscape sketching classes will be held in the Park during September on Wednesday and Saturday afternoons. Assemble at the galleries at 1:30. Classes are under the direction of Charles Lindstrom.

ANNUAL MEETING

The annual meeting of the Portland (Oregon) Art Association will be held on Monday, October 9th. Among items of business will be the selection of five trustee members.

ART FOR SCHOOLS

The Board of Directors of the Northern California chapter of Artists Equity Association has entered a campaign to include murals and sculpture in San Francisco school buildings.

A resolution expressing the Association's conviction that the inclusion of works of fine art in public schools is a necessary step to enhance the spiritual and moral values of young scholars was passed and referred to the City's school board.

THE ART FESTIVAL

The San Francisco Art Festival, which for the past several years has been an open air event, will be held this year from December 1 to 3 in the Palace of Fine Arts Building in the Marina.

Postponement of the Festival from September to December was necessitated by action of the San Francisco Board of Supervisors in making funds for the event available.

THE VIENNA TREASURES

GREAT HAPSBURG COLLECTION

M. H. DE YOUNG MEMORIAL MUSEUM

The fabulous exhibition of treasures from the Vienna Museums will continue through September. Because of great public demand the museum hours have been lengthened during this exhibition. Weekdays 10 A.M. to 5 P.M.; Saturdays and Sundays from 10 A.M. to 7 P.M.

The treasures of this collection of the Imperial house are by no means only paintings. Among the Renaissance bronzes is Antico's beautiful Venus Felix with gilded hair and draperies, her eyes inset in silver. One of the most important of the early Renaissance bronzes, Bertoldo di Giovanni's Bellerophon Mastering Pegasus is here, and Giovanni Bologna's Venus After The Bath. The oldest object in the show is a bronze Greek discus from about 500 B.C. incised with a dolphin. Among the other rare Greek and Roman antiquities is the so-called "Gemma Augustea" onyx cameo showing Tiberius leaving his chariot.

The truly breath-taking array of ornamental objects in precious and semiprecious materials deserves a great deal of study. The Wilten Chalice of silver-gilt with niello is one of the few surviving medieval eucharistic services. The Michael Goblet, illustrated here, made of gold, enamel and precious stones, shows the Archangel Michael with his armor set with black diamonds. There are lapis lazuli cups, jade bowls, rock crystal jugs, all done in imperial fashion.

The masterpieces of painting together with ancient ivories, impressive arms and armor, and massive tapestries, adds up to one of the greatest exhibitions to come to this country.

THE MICHAEL GOBLET
Of Gold, Jewels and Enamel
French, 1530-1540

JOINT INFORMATION COMMITTEE

AMERICAN INSTITUTE OF ARCHITECTS and THE PRODUCERS COUNCIL, INC.

SPECIFICATIONS PROBLEM TO BE GIVEN GENERAL CONSIDERATION

A "panel discussion" on the subject of "What's Wrong With Architectural Specifications" has been arranged in conjunction with the annual convention of the California Council of Architects being held in Yosemite on September 28-29-30.

It is the first time the specifications problem has been opened to public discussion and the open conference on Saturday, September 30, may represent a historical event in architectural profession-building materials relationships.

While the meeting is entirely informal and is not directly a part of the program for "Clarification and Simplification of Specifications" being sponsored by the Joint Information Committee of the Northern California Chapter of the American Institute of Architects and the Northern California Chapter of the Producer's Council, the opinions expressed by those in attendance at the Yosemite Conference will be of keen interest to the leaders of the architectural profession and the building materials industry who are working hard to find an equitable solution to the present-day overall situation.

The subject of "Specifications" has long been one of conversation and little, if any, action. Now for the first time the subject is being brought out into open discussion. Only through many such public discussions will it be possible to obtain opinions and suggestions which can be utilized in constructive action to solve a problem as complex and yet important to the Architectural Profession and the Building Industry.

"Specifications" is a big, difficult problem of long standing and it needs careful consideration in order that the best Uniform Specifications Procedure may eventually be developed for the good of the building industry.

The best aid towards a satisfactory solution will come from individual interest and cooperation and everyone concerned, Architects, Engineers, Contractors and material manufacturers should contribute ideas and help solve the problem.

PANEL DISCUSSION—YOSEMITE
September 30, 9:30 to 10:30 A. M.

WHAT'S WRONG WITH ARCHITECTS' SPECIFICATIONS?
Moderator, Don W. Lyon
Libbey-Owens-Ford Glass Co.

MANUFACTURERS' VIEWPOINT
Wm. C. Thielman
Pioneer Division
The Flintkote Co.

GENERAL CONTRACTORS' VIEWPOINT
Wm. C. Tate
W. C. Tate, Inc., Gen. Contractors

SUBCONTRACTORS' VIEWPOINT
Angelo J. Daneri
Smith & Daneri
Plastering Contractors

THE ARCHITECTS' DEFENSE "IF ANY"
Vincent Raney

NOTE: This news space is being contributed by ARCHITECT & ENGINEER Magazine to the JOINT INFORMATION COMMITTEE representing the Northern California Chapter of The American Institute of Architects and the Northern California Chapter of the Producer's Council, Inc., and is available to this Committee for the purpose of bringing to the attention of leaders within the Construction Industry various phases of the Architectural profession and building materials industry procedures for general consideration and comment. Your "ideas" and any suggestions for the better pooling of thoughts along these lines should be sent to "Joint Information Committee, c/o The Architect & Engineer, 68 Post Street, San Francisco," where they will be immediately forwarded to the proper committee members.

$100,000,000
LOW INCOME HOUSING PROJECT FOR LOS ANGELES

Details of the Los Angeles City Housing Authority's new 10,000-unit slum clearance and public low-rent housing program, together with the list of the twelve areas to be rehabilitated were announced recently by Acting Chairman Lloyd A. Mashburn and Executive Director Howard L. Holtzendorff.

Ten of the sites are classified as "sub-standard areas" under the California Housing Authorities Law. Two are partially vacant. Six sites are merely extensions to already existing permanent low-rent housing developments, while two others involve progressive demolition of temporary war-housing projects and their replacement with permanent low-rent housing.

Nine sites are located in what the City Planning Department refers to as the "downtown 70 square miles" in which most of the city's blight is located. Of the other three, one is in Pacoima, one in West Los Angeles and one in San Pedro.

Land acquisition proceedings are in full swing and construction on the first projects is expected to start in either December or January.

Housing officials indicated, however, that before any construction proceed orders are issued, current defense requirements would be analyzed; also that the construction program is subject to periodic re-examination to assure that there is no conflict with the larger objectives of the nation.

Two of the scheduled developments have already been given priority in construction: one in West Los Angeles, adjacent to two large aircraft plants, and one in San Pedro in the heart of the shipbuilding industry.

Mashburn estimated that, barring any worsening of the present international situation, the entire 10,000 unit slum clearance program would be completed within three years. Total cost of the program, including land, improvements, demolition and clearance, and construction of new facilities will be at least $100,000,000.

Rents and eligibility requirements have not as yet been established, but occupancy in the developments is limited by law to families of low income, with the site occupants from the cleared areas having automatic preference to return to the new projects if they are eligible. Priority also goes to families of veterans and servicemen living in sub-standard housing and having three years of residence in Los Angeles.

Largest Development

Largest proposed development is in the Chavez Ravine and Elysian Park area. Here, on 278 acres of hilly terrain, the Authority will erect approximately 3,350 dwelling units, the largest low-rent development ever planned in Los Angeles. The area, in which some 3,600 people presently live, is classified under the State Housing Law as 98% sub-standard.

Architects for the Elysian Heights development are Robert A. Alexander and Richard Neutra. Overall Architectural Consultants to the Housing Authority for the entire program are Reginald F. Johnson of Pasadena and Dean Arthur Gallion of the University of Southern California School of Architecture.

Next largest project is the extension of the existing Rose Hill housing development in northeast Los Angeles. Here, in the Lincoln High area off North Huntington Drive 176 acres of rolling land will accommodate 2000 additional units of housing. The site presently houses over 600 persons in housing that is 99% sub-standard. Allen & Lutzi are the architects.

Five other extensions of existing developments include: Aliso Village at 1401 East 1st Street, where a 31-acre site will supply space for 500 units of housing. 3200 people now live in this area in housing that under State Law is 100% sub-standard. W. F. Ruck is the architect for this project.

Pueblo del Rio at 1801 E. 53rd Street involves reconstruction of an 88-unit war temporary, plus taking in of an additional area north of the existing development and west of Long Beach Avenue, is 100% sub-standard. Total area will be 17 acres, with 300 units planned. Architects are Theodore Criley & Charles Burge.

Rancho San Pedro at 275 West 1st Street in San Pedro, where a block between Palos Verdes and Beacon from Santa Cruz to Third, and another block from 1st to 2nd between Mesa and Center

(See Page 38)

THE
AHWAHNEE
Convention
Headquorters

ANNUAL
CALIFORNIA COUNCIL
YOSEMITE PARK

The beauty of Yosemite Valley with its Fall coloring beckons Architects from the Western states to an inspirational setting for the annual convention of the California Council of the American Institute of Architects.

Many panel discussions will cover types of design and construction which prove best for Western public buildings and the private home.

Schools of Architecture

This year the deans of Architectural Schools at our Western Universities, Dean Arthur Gallion of the University of Southern California, Dean William W. Wurster of the University of California, Dean Ralph Priestley, California State Polytechnic College and Dean Roy N. Faulkner of Stanford University's new School of Architecture, will present a panel on "Schools of Architecture and their relation to Architects and Architectural practice."

Radiant Heating

Radiant Heating and Cooling which is gaining popularity in Western Buildings, will form another subject for panel discussion. Mr. Robert Bruen, nationally recognized authority on the practical aspects of radiant heating will be one of the speakers as will be Mr. Richard W. Shoemaker, Electrical Engineer and internationally known in this field. Mr. A. L. Ottum, registered professional mechanical engineer and now actively engaged in the installation of radiant heating systems and Mr. Howard E. Mohr, building contractor with wide experience with radiant heated buildings will also participate in the discussion.

State School Aid

School State Aid which is vital to so many communities, will have as moderator Mr. Henry Wright. Mr. Charles Gibson of the California State School Planning Office and Mr. Frank Cook of the School State Aid Office will present data on this important subject.

The $250,000,000 State bond issue passed by electors last November is to provide assistance to districts which are unable under legal limitations to finance construction of the required school facilities. After districts have voted all bonds possible under legal limits,

Typical Sleeping Room

Great Lounge

CONVENTION OF ARCHITECTS

SEPTEMBER 28 · 29 · 30

various other qualifications are checked and they may be eligible for borrowing additional funds from the State. This money is refunded to the state over a period of thirty years and if a district is unable to do so at that time, then the indebtedness is cancelled. It is estimated that 24,000 elementary class rooms will be required in addition to the High Schools and Junior Colleges to house our school population.

Other Panels

Other panels will cover Real Estate, the Merchant Builder and the Architect, Product Literature, and the Young Man in the American Institute of Architects. Mr. John Lyon Reid and Mr. Robert Ingle Hoyt are co-chairmen of these panel discussions.

"Fifty Years in Yosemite"

Mrs. Mary Curry Tressider, widow of Dr. Donald Tressider, late president of Stanford University, and daughter of the Founder of Yosemite Park and Curry Company, will talk to the women architects and wives of the architects on the subject "Fifty Years in Yosemite".

Women's Activities

The Womens' Architectural League, representing various chapters throughout the state, will convene in several business sessions to discuss mutual problems and ideas. The W.A.L. will also participate in several general convention programs.

Committees

Mr. William Henry Rowe, San Francisco Architect, is convention manager assisted by the following committees:

Chairmen:

Mr. Andrew Hass—Chairman Hosts Committee.

Mr. Albert Aronson—Chairman of Reservations Committee.

Mr. William H. Knowles—Chairman of Sports and Games.

Mr. Charles S. Pope—Chairman Finance.

Mr. John Lyon Reid, Mr. Robert Ingle Hoyt—Co-chairmen panel discussions.

Mr. Donald Beach Kirby—Chairman Liaison Committee.

Mr. Hans Schickele—Chairman Bulletin Board and Signs.

Mr. F. Bourn Hayne—Editor of the Convention Daily.

Mr. William Corlett—Chairman of Tours.

Mrs. Helen Douglas French—Chairman of Women's Activities.

Mrs. Bolton White, Women's Co-ordinating Committee.

Ahwahnee Balcony

BEFORE—Unsightly skylight which distarted raom proportions was banked with row of baffles set ta cut angle of summer sun. Fluorescent light tubes for auxiliary daytime light and indirect night lighting were placed under baffles.

A STREAMLINE SKYLIGHT

KITCHEN & HUNT Architects

BY MARCIA LEE

The 'skylight"—that common relic of the gaslight era of industrial and commercial building lighting—still crowns the top floors of a good percentage of our older buildings in any city. The important problem cf how to utilize the skylight as a valuable source of light, yet hide its usual unsightliness and eliminate the glare with which it floods the room, or space, below, has been neatly and quite economically solved by San Francisco architects Robert R. Kitchen and Frank L. Hunt, by the use of high reflectivity aluminum grid or egg crate sections.

The architects had five of these old style skylights to contend with in their plans for remodeling the offices of the Wilbur Ellis Importing and Exporting Company of San Francisco.

The existing skylight glass was thoroughly cleaned and the well of the skylight painted white in order to utilize the opening to the best advantage as a primary light source. The first step in controlling this natural light was the placement cf a row of baffles directly below the glass. By means of sun meter computations, the baffles were set in a position to cut off the maximum summer angle of the sun (see the illustration above).

Fluorescent light tubes, to supplement natural daylight lighting when necessary and for the indirect illumination when the offices were being used at night, were affixed to supporting wood members placed at regular intervals under the baffles. This entire lighting structure was then hidden from view behind a panel of aluminum

louvered grid sections which act to diffuse light equally throughout the entire room below, thus eliminating shadows and glare. The grid sections were placed flush with the ceiling to produce a streamlined, unbroken ceiling surface that greatly improved the appearance of the room.

An aluminum louver ceiling section which has a set-in finish that picks up light from any angle and thus offers a maximum in light diffusion, was selected by the architects for the installation. There were several important economies in the choice of aluminum as the material for the grid—a thicker material would create undesirable shadows which would have to be compensated for by use of additional wattage; the high reflectivity of aluminum makes it possible to space light tubes further apart, and the material requires no special treatment to insure its permanency.

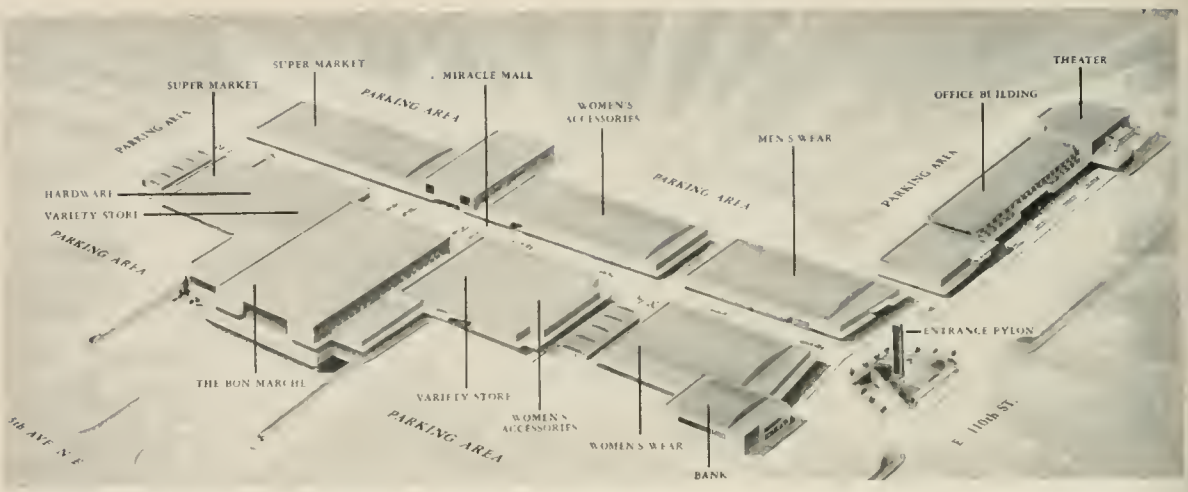
The proper spacing of the fluorescent light tubes is determined by the distance between the bands and the grid. For the best distribution of light, the horizontal space between the bands should be twice the vertical distance between light tubes and grid. According to recent tests it has been shown that a maximum evenness of light distribution can be achieved by placing the tubes at a 45 degree angle, rather than parallel, to the grid.

The aluminum louver ceiling sections are 4 feet square by 4 inches deep, with the slats spaced at 4 inches, thus creating 4 inch cubes or cells. Units can readily be stripped to any width necessary for filling the space required.

Where these aluminum louver ceiling sections are used to cover an entire ceiling area, the grid is generally suspended below the ceiling by means of flexible plumber's tape or furnace chain. In this instance the section was permanently fastened by screws to the sides of the skylight. All necessary side and end channels, cross and center Tee rails and all anchors and fittings are supplied as part of the mechanism.

The architects point out that any skilled mechanic will find it relatively easy to install the grid according to prearranged details and plans.

AFTER—The entire skylight area is hidden behind panel of aluminum louvered grid section set flush with ceiling. Satin finish aluminum distributes light evenly, eliminating shadows and glare.



Artist's conception of the $18,000,000 Northgate super-shopping center . . . covers 28 block-square area in fast growing district on the north city limits of Seattle, Washington.

NORTHGATE —

SUBURBAN SHOPPING CENTER

SEATTLE, WASHINGTON

By ARTHUR W. PRIAULX

Seattle now boasts the nation's largest and most costly suburban shopping center—$18,000,000, 28-block square Northgate—as an answer to its downtown parking problem.

The idea for the super shopping spot came from 39-year-old Rex L. Allison, president of Seattle's famed Bon Marche department store. North Seattle has grown by leaps and bounds, and to get his share of the $500,000,000 which the area's 275,000 people spend each year, he decided to take his store to them in the form of a new $3,000,000 complete Bon Marche branch store, which would carry as full a stock as the downtown parent headquarters.

John Graham and Company, architects, were charged with the responsibility of designing the daring new super-suburban center and with Phil Bessor, engineer, worked three years on the plans and designs.

More than 80 stores and shops will open onto the 48-foot-wide, five-block-long Miracle Mall which starts at a huge, lighted entrance welcome pylon, where traffic enters the area from 4-lane East 110th Street. On four sides of the vast center are free parking lots to handle 4,000 cars.

Northgate comprises about 50 acres, with an additional 26-acre area adjoining, held for future development.

Included in the district is 1440-seat Northgate Theatre, a $300,000 branch of the National Bank of Commerce, and a four-story office building with many smaller stores and markets. All store buildings in the district will conform to the color scheme of the Bon Marche building and will be finished

PROJECT ARCHITECT

JOHN GRAHAM AND COMPANY

PHIL BESSOR, Engineer

on the exterior in sun-up beige. Every store will be individual in its design as far as store fronts and interiors. Most of he stores will have their own architects, so wide variety and ingenuity will be found.

There will be no vehicular traffic on Northgate Mall, all shopping avenues are for pedestrians, who have easy access to every store from the well-placed and spacious parking areas. All merchants have agreed to keep their stores lighted until 11 o'clock at night, and restaurants and theatres in the Northgate district will be open every evening.

By far the most imposing structure in the Northgate center is Allison's dream child — the strikingly modern, three-story, $3,000,000 Bon Marche branch, opened in early summer and first completed unit in the Northgate. It is finished on the the outside with stone, quarried in Pierce County, Washington, and trim on the exterior is of aluminum with a polished aluminite finish. The same

ARTIST'S sketch of the $3,000,000 Bon Marche department store Northgate branch, as viewed from Fifth Northeast.

Photos by Martin Moyer

FIREWORKS helped launch America's mast ambitious super self-contained community within a larger community, as Ban Marche department store opened its new shaw-place in the huge Northgate develapment praject near Seattle.

material is used in the easily-operated entrance doors and in some of the gracefully styled show cases and display areas. Exposed cement walls have been painted.

An unusual feature of the store is the great glass windows of thermopane which reach from floor to ceiling on the three floors where the store faces the Mall. Curtains for these windows can be closed simultaneously by an electric control switch.

Near perfect lighting has been achieved in the sprawling, 200,000 square feet of floor space in the Bon Marche store, without reflection. Incandescent ceiling lights have been built in flush with the ceilings with a white reflector, small under globes, and white metal circular bands out from and perpendicularly surrounding the globe.

Interior of the store was planned by Bernie Simonson, of The Bon Marche store, who worked with Frank Nye, of New York, and C. L. Calderon, from New York offices of Allied Stores, Inc., parent company. M. B. Beattie, Allied Stores engineer, supervised the engineering for the new Bon Marche.

Everything has been chosen for texture as well as color in the store, because colors are associated with certain merchandise in the minds and emotions of buyers.

Interest of the buyer is captured with a constant change of pace in color decorations. For instance, pale shades are used in baby's layettes, while cedar and cordovan stains blend well with the buyer's color conditioning in such departments as men's wear, sporting goods and women's sports wear.

Oak, pine and Western red cedar, Northwest woods, have been used with telling effect through-

out the store.

One of the unusual features of the Bon Marche is the magnesium Terrazzo floor on the main level, believed to be the first installation of its kind in the Pacific Northwest.

A further discussion of colors in the decorating scheme brings out the cleverness with which the designers developed their use of color. They are subdued, restful, but just as in nature, there is some brilliant color, which blends well with the restful sky and atmosphere in this store where shoppers seem to be almost outdoors because of the vast areas of glass.

All deliveries to the Bon Marche and other stores on the mall will be received through an underground passageway, underneath Northgate Mall —so as to free Northgate from trucking traffic. Entrance is from the south end and exit from the north end. Ventilators with fans from the under-ground passageway reach up along the Mall forming landscaping gardens and seating areas for shoppers.

A rare feature of the Bon Marche Northgate branch is the Legend Room, a beautiful dining room designed by Professor Lionel H. Pries, of the School of Architecture, University of Washington.

A SPECTACULAR night photograph of the completed Bon Marche building as seen from the five-block-long Miracle Mall, showing a portion of the crowds which flocked to the store's grand opening recently. Flood lights bring out the unusual beauty of the stone facing.

MODERN, automotic electric stairways connect the three floors of the department store building. In this illustration is shown the details of the ceiling lights, and some of the attractive merchandise display counters which have been installed throughout the large stare.

Motif for the room is the Northwest Indian and the cultural arts of six of the tribes has been developed in the design of the room, in pictures in Totemic Art. There is a separate Legend Room fountain. The kitchen and scullery department is one of the most modern any place in the West. It boasts a dish washing machine capable of handling 22,000 dishes per hour, only one of its kind in America.

To pull $50,000,000 a year into Northgate, Allison's engineers and architects have thought of everything. For instance, no automobile in the 4,000-car parking lot will be more than 600 feet from the nearest store on the Mall. In the huge C. & H. supermarket, biggest in Washington State, a housewife may do her shopping, then check her groceries, freeing her arms for more purchases in other stores. When she is ready to get her car, she picks up her groceries from a kiosk in the center of the parking lot.

Even the tenants in the four-story office building are being screened for their crowd-pulling appeal, for crowds are what Allison and associates want at Northgate. Doctors, dentists and real estate men will make up the bulk of the tenants in the new

office building, for they are supposed to have the greatest crowd-generating ability and will bring in many shoppers every day of the year.

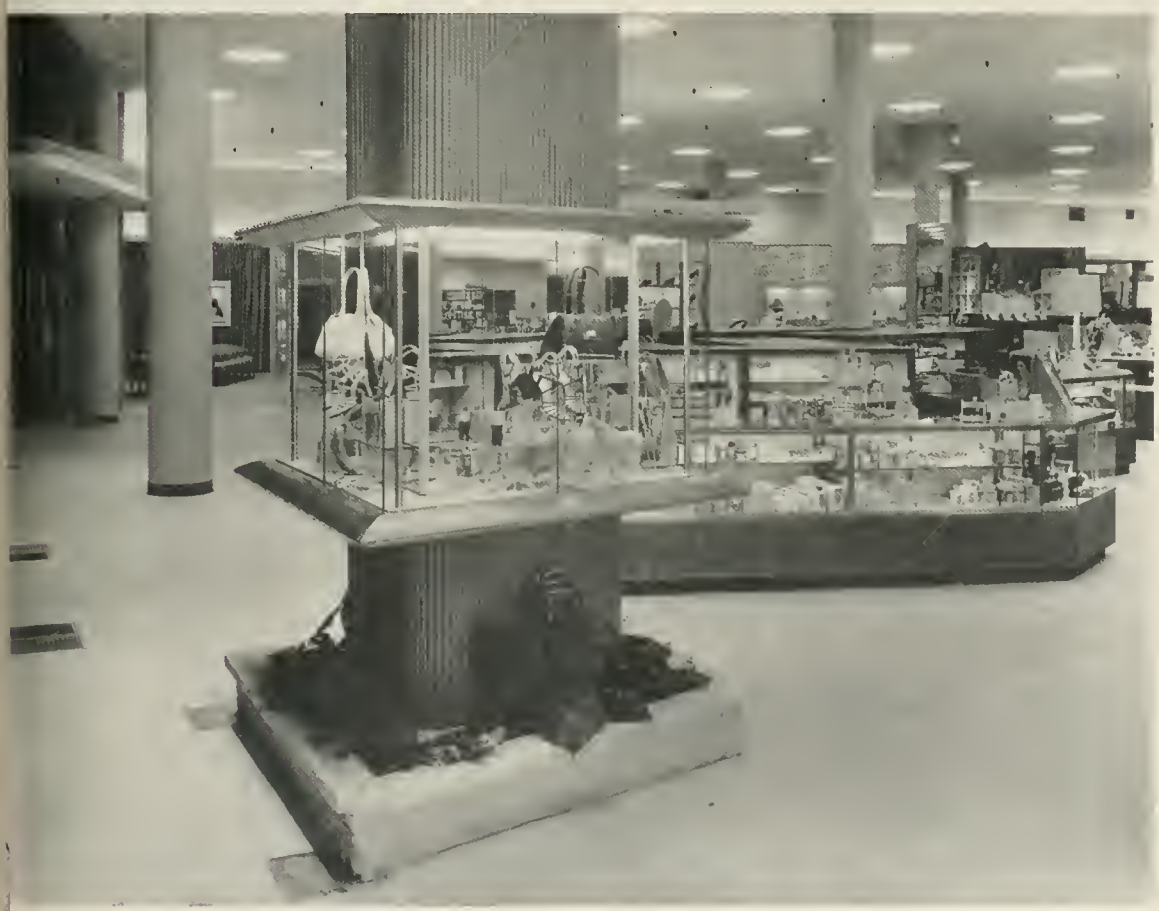
The novelty of the Northgate shopping center lies in its unusual services and crowd-pleasing arrangements of stores and shops, is already proving the brain child which Rex Allison had three years ago. Where he figured a $5,000,000 annual gross for the Bon Marche Northgate branch would be good, the volume done to date since the opening of the center in early summer points to a $10,000,000 annual gross.

Attracted by the fabulous suburban merchandising area's early popularity, developers of the Northgate have now decided to erect on 7.7 acres across East 110th Street early next year 239 one- and two-story apartments.

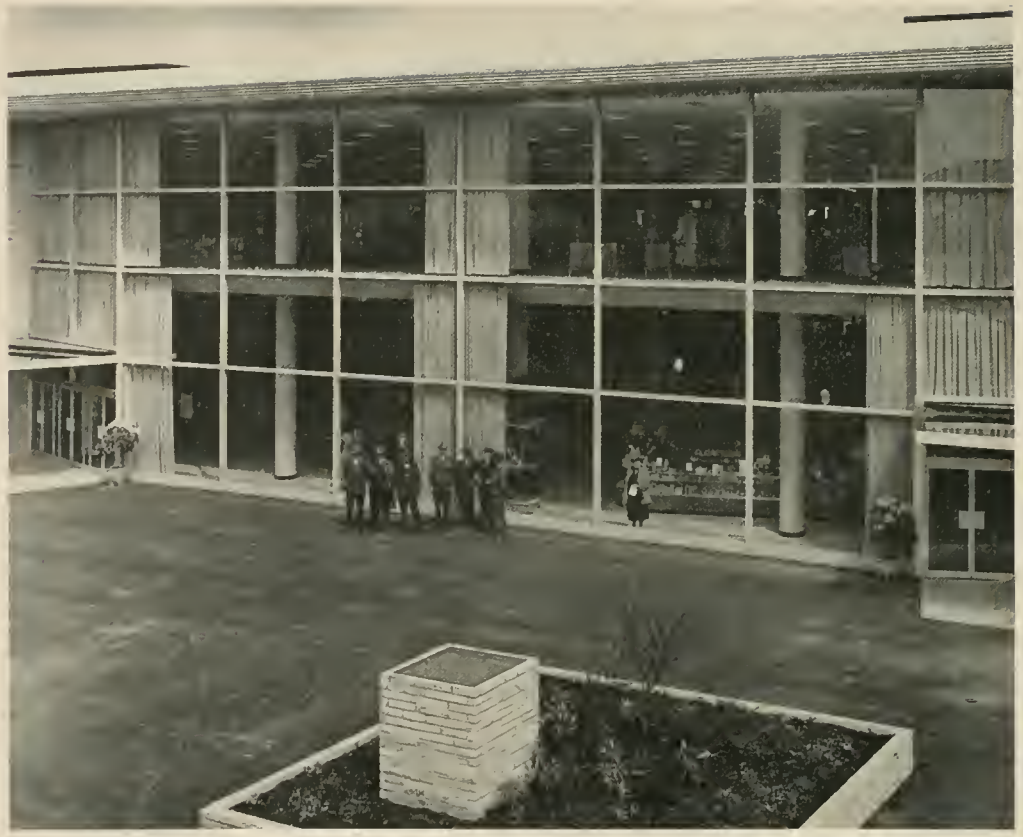
The super marketing district will be almost a complete city by the end of 1950. It will even have a radio station, KSEA, which will build its transmitter and studios at Northgate during the year, with a 225-foot transmitting tower located near the office building.

General contracting for Northgate was done by

BREATH-TAKING is the description for much of the floor display fixtures on the main floor of the Northwate Bon Marche store. The illustration below shows the ingenious use of native woods in many permanent fixtures.



NORTHGATE . . .



A DAYLIGHT view of the Bon Marche store entrance as seen from NORTHGATE Miracle Mall, with ventilators from underground truck passageway in the foreground landscaped for harmony with surrounding area . . . oluminum, stone and gloss combine for striking front elevotion of this remarkoble department store.

NORTH Seattle's new NORTHGATE district has been carved out of a second-growth forest area . . . nearness of forests are shown in this photograph of a portion of the new super shopping center.

Howard S. Wright Company, with C. J. Williams as general superintendent. They let many subcontracts on the vast project. General superintendent for all construction designed by John Graham and Company was Charles R. Swinford. Superintendent for the Graham firm and working under Swinford was Gerrit T. Hemsing.

Certainly, Northgate has been scientifically located by engineers and skilled merchants in the center of a large, high-income district to give them all the selection possible from the largest downtown stores. It has been planned for easy access from any direction with special attention to parking and customer comfort. It has been designed to give the community warmth and hospitality of the smaller town, but with big-city shopping advantages. The planners, sparked by Allison, have put together in this modern-day, miracle, super-shopping center the conveniences demanded by present-day shoppers, harassed by parking problems and inconvenient shopping in down-town areas where stores and shops are spread out over many blocks and thus difficult to reach from a central parking spot.

WESTERN ASBESTOS CO. APPOINTED INSULROCK DISTRIBUTOR

Insulrock Corporation, Linden, New Jersey, manufacturers of Insulrock structural building board, have appointed the Western Asbestos Co. as distributors for Northern California.

Insulrock is composed of tough, long chemically-treated wood fibres which are completely coated with fire-resisting and water-resisting Portland cement and bonded together under substantial pressure to form strong, durable, incombustible boards, which afford protection not available in the ordinary types of insulating boards. The interconnected fibres form small uniformly distributed air spaces which insure high and light weight.

The continuous, mechanical process by which the Insulrock panels are made insures uniform quality and physical properties. The excellent sound-absorbing and thermal insulating characteristics of Insulrock slabs coupled with their incombustibility and structural strength combine to create a building board which is admirably suited for roof decking, roof boarding, floor slabs, structural insulation, exterior sheathing, stucco base, interior plaster base, and acoustical tile, as well as for non-bearing sound-deadening partitions in commercial, institutional, industrial and residential building projects.

RESEARCH INSTITUTE NAMED

James W. Morgan, president of the Southern Building Code Congress of Birmingham, Alabama, recently announced that the Southern Research Institute of San Antonio, Texas, has been designated as a technological research facility of his organization.

The Southern Building Code Congress is composed of over 250 municipalities in thirteen southern states and is devoted to constant improvement in, and more general adoption of, modern performance building codes which are tailored to meet the standards of safety and health in the south.

APPOINTED EXECUTIVE SECRETARY

Calvin O. Williams, linguist and foreign relations specialist, has been appointed executive secretary of the Southwest Research Institute's International Division, according to a recent announcement by Dr. Harold Vagtborg, president.

Williams has been associated with Latin American relations activities as a member of the Texas State Good Neighbor Commission.

HOUSTON VOTES AGAINST PUBLIC HOUSING

Houston, Texas, turned down by a vote of 35,141 to 22,060 a plan for the development of a public housing project in Houston.

In addition to the public's decision not to engage in the public housing program, the President's position has been one of definite limitations on the number of new starts in public housing.

PEAK BUILDING PACE

Los Angeles county is in the midst of the biggest residential building boom in its history, according to a recent report of the Security-First National Bank.

Building permits issued show an increase of 68% over last year, and the construction of some 63,219 family dwellings to accommodate 180,000 persons is greater than for any entire year except one.

CHURCH AUDITORIUM—The Roman Catholic Archbishop of San Francisco, recently announced the construction of a Church Auditorium addition to the St. Theresa Parish in Oakland at a cost of $259,000. Wm. E. Schirmer, Oakland, is the architect.

NEW CHEVROLET ASSEMBLY PLANT IN SOUTHERN CALIFORNIA.

CHEVROLET ASSEMBLY PLANT

VAN NUYS, CALIFORNIA

PARKINSON, POWELSON, BRINEY, BERNARD & WOODFORD

ARCHITECTS

DESIGN of business and administration offices provide a maximum of comfort, light, ventilotion, and acoustical control.

Photos on this page by Julius Shulman

The basic functions of the large Chevrolet Assembly Plant, which has been constructed recently in the City of Van Nuys, California, by the Chevrolet Motor Company, is the handling of spare automobile and truck parts, and the assembly of new automobiles and trucks:

The plant comprises a group of separate and interrelated buildings that include Administration, Assembly, and the manufacture of specialized products needed in the conduct of the business.

The Administration Building, facing the street, contains the general and executive offices; a parking garage for executives automobiles, and a fully equipped cafeteria for the use of administrative personnel. Offices are open-style (without partitions); well daylighted with augmented overhead lighting; acoustical tile ceilings; and composition tile flooring.

The Assembly Building is divided into three major operational areas. One of these is devoted to personnel offices, locker rooms, employees' cafeterias, and wash rooms; one is devoted to the building of Chevrolet passenger car bodies; and the other to the building of Chevrolet truck bodies and the assembly of new passenger cars and trucks.

There are, in addition, several supplemental outbuildings which are devoted to the manufacture of specialized products including acetylene gas for welding operations; machinery for the pumping of oil and gasoline from underground storage tanks to various consumption outlets; and areas used for the preparation and shipping of the finished automobiles and trucks.

There is also a spare parts warehouse, which functions as a unit independent of the assembly and manufacturing operations, and is a complete central depot for the distribution of automobile and truck parts to dealers and retail outlets in the southern California trade area.

Interiors of all structures were designed to make available unobstructed working areas for the efficiency of plant operations. A minimum of supports for balcony and upper floors was made available by use of steel columns, steel girders, and steel roof trusses. Natural use of daylight throughout the manufacturing areas is provided by windows which extend the full side length of the building. Supplemental lighting has been added by the use of overhead tubular fixtures. The lighting installations are sufficient to operate the plant without daylight if it was desirable to extend the plant's activities into a day and night operation.

Lightweight concrete slabs were placed at an angle outside of the widows on the east and west elevations of the Administration Building and the west elevation of the Parts and Factory Buildings to exclude the sun's glare and yet provide light and ventilation. On the Administration and Parts Buildings these concrete louvers are close to the sash and on the Factory Building a passage was left between the louvers and the sash for cleaning. Heat absorbing glass was used on the south and east elevations of the Factory Buildings, to eliminate heat from the sun's rays and yet provide a maximum of natural lighting.

LOOKING east along the south window wall of the factory . . . floor areas are "open" for general utility uses.

Photo by Edgar Osborne

ONE of the Architecturol objectives was adequate night time new car display.

GREER-ROBBINS COMPANY

AUTOMOBILE AGENCY

BEVERLY HILLS, CALIFORNIA

The objective of the Greer-Robbins Company in constructing an entirely new building in Hollywood, was the development of a structure the basic function of which would be the satisfactory display of new automobiles; the handling of sales personnel, and the many details of a business engaged in the selling of new and used automobiles; and the conduct of an automobile service and complete repair department.

Location of the building on heavily traveled

DETAILS of the New Car display area emphasizes spacious plate glass windows for clear visobility from the outside. Overhead lighting directs attention to automobiles being exhibited.

Photographs on this and Opposite page by Julian Schulman, Los Angeles

Wilshire Boulevard offered the architects an opportunity to create a structure which would attract attention of motorists driving along the busy boulevard, as well as appeal to the people driving in the area who transacted business on a more or less local basis.

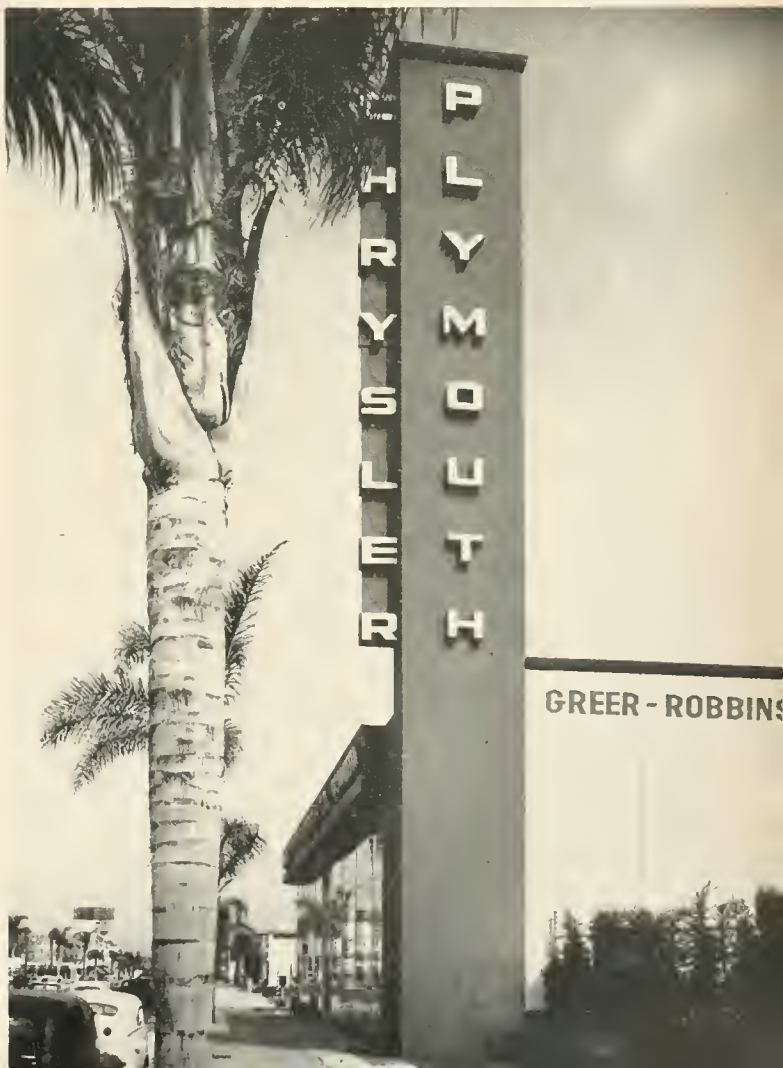
The result was the completion of a building, attractive in overall appearance; one that is harmonious to its surroundings, and one that serves the complete needs of the Greer-Robbins Company.

The new car display room, with its large glass windows reaching from near the floor-to-ceiling on the side facing Wilshire Boulevard and on the side street, is separated from the service and repair department by a central core of offices and the parts department. A large mural adorns the wall at the end of the showroom opposite from the glass windows. The ceiling of the showroom has been sloped to gain greater height for the glass area on the street front.

Nighttime lighting is obtained from a series of overhead fixtures that are arranged and so designed as to focus lighting on automobiles placed at various vantage points on the display room floor.

The office area and parts department portion of the building contains a mezzanine. The mezzanine has its window area over the lower side of the sloping ceiling of the new car display room.

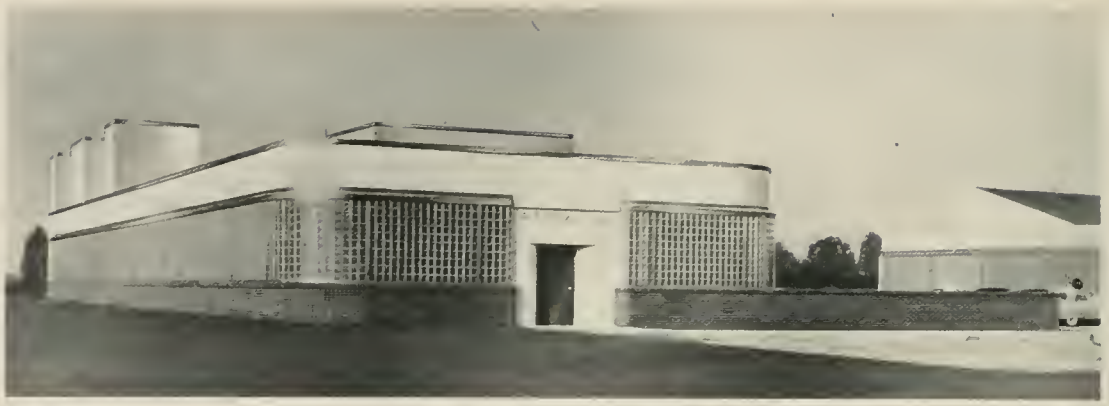
The manager's office is located so as to have a visual control of the display and sales area; the repair building entrance and the used car lot across the street. The repair building is segregated into customer's receiving stalls; light repair facilities, and brake and lubrication department.



BUILDING-EXTERIOR

Large glass windows of the New Car show room, which are almost sidewalk level, are topped by attractive sign panel which is illuminated at night.

Clear view sign tower at extreme end of building adds beauty to the structure and harmonizes with the Palm trees that line the sidewalk.



NEW Ultra Modern Research Labaratory Building — Las Angeles.

NEW RESEARCH LABORATORIES

McCULLOCH MOTORS CORPORATION

LOS ANGELES, CALIFORNIA

Completion of the new ultra-modern research laboratory building, as a part of the continued expansion program of the McCulloch Motors Corporation in Los Angeles, represents one of the newest technical advancement facilities for the testing of engines on the West Coast.

The new building, comprising some 7500 sq. ft. of floor space, houses seven sound-proof engine test cells, and was constructed to allow for even a greater scope of the company's policy of applying the most modern scientific methods for product improvement in the fields of light weight chain saws, pumps, and other engine powered equipment. Five of these new test cells are equipped with dynamometers utilized in exhaustive tests for lightweight engine development, while the remaining two cells are used for conducting endurance tests and making fuel consumption and analysis studies of the McCulloch engine used to power radio controlled aircraft targets for the military.

In addition to the two cells used for the aircraft target engine experiments, in the new main research building, four other similar test cells were recently completed in a research annex for tests in conjunction with propeller loads.

Located adjacent to the main plant buildings, the new research laboratory is completely soundproofed to meet the conditions necessary in the testing of engines from 1 to 150 horsepower. Heavy laminated soundproof doors are used on each of the test cells. Each of the test cells is equipped with glass windows ⅞ of an inch thick, facing on the hall of the laboratory, which are used by research specialists in observing engines during test periods. Operational control of the equipment within the cells is via a control room immediately adjacent to the testing area.

Each of the test cells is also soundproofed so that there is no interference or confusion when single or multiple units are in use.

Glass brick window walls have been used as a basic feature of the functional design, and provide a maximum amount of natural day-lighting for all test cells.

All plumbing and numerous service facilities for the scientific equipment are carried in specially designed under-floor trenches. This unusual feature of the building design permits an appreciable gain in usable floor space throughout the entire building.

EXPERIMENTAL tool room, part of the new laboratory, is equipped with modern precision tools.

All primary work on new product development is done here, by members of the research staff.

By utilizing white tile as an exterior covering for the building, a very modern effect has been created. The white tile coupled with window walls gives the building a highly serviceable yet striking exterior.

Mixing fuel for the engines has always been a big problem, not only from the standpoint of a fire hazard, but also because of the inconvenience. This problem was solved by incorporating into the new building design a method of mixing various fuels by remote control. This was accomplished by locating storage tanks on the roof of the laboratory, with piping from these storage tanks to a fuel room. Controls in the fuel room permit the operators to obtain exact mixtures simply and quickly.

In addition to the seven test cells, the research building contains an experimental tool room, complete with modern precision tools and other equipment necessary to carry on the broad research programs being conducted at the plant. Chemical and physical laboratories of the company are at present located in the main manufacturing plant.

McCulloch Motors Corporation moved its plant to Los Angeles from Milwaukee, Wisconsin, in 1946, and according to company officials the completion of the new facilities promises many new developments in the building of light-weight engine driven products.

FROM this control station, outside the soundproof engine test cells, the research operator conducts simultaneous endurance runs on target aircraft engines in the two cells seen through the windows. Engines operate at 4200 r.p.m. for 25 hours.

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WASHINGTON STATE CHAPTER

The regular September meeting was devoted to a review of the work of the Professional Practice Committee who have developed an extensive educational program.

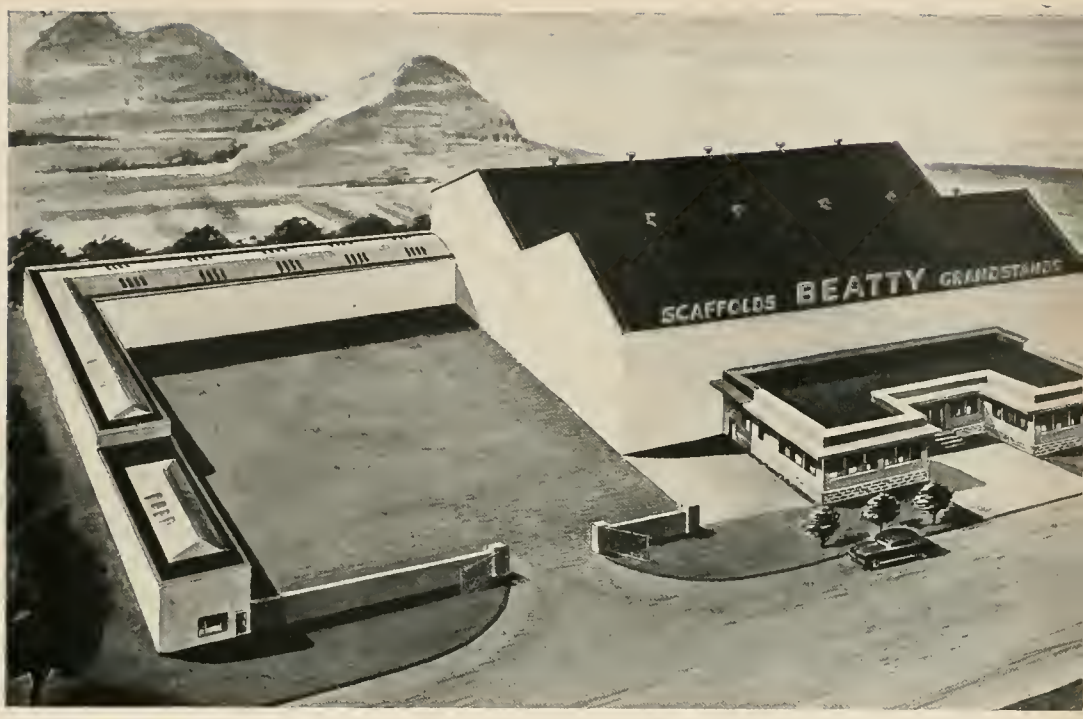
In cooperation with the Arboretum Foundation and the Adult Education Department at the University of Washington, the Chapter will present an Institute on Modern Living on October 3, 4, and 5. Speakers will include Charles Eames, Lawrence Halprin and Richard Neutra. Also participating will be Dr. Raymond B. Allen, President of the University of Washington, and attorney Donald Graham. The Institute will be held in the Health and Science Auditorium at the University of Washington Medical and Dental School.

NEW members: George H. Anderson, Associate; T. C. Warren, Junior Associate.

UNITED STATES GOVERNMENT SEEKING TRAINED ARCHITECTS

The U. S. Civil Service Commission is seeking Architects to fill positions paying from $3,825 to $5,400 a year in several branches covering Design, Working Drawings, and General.

No written test will be given. To qualify, applicants must have either completed a 4-year college course with major study in architecture or have had 4-years of experience in architecture which



NEW MANUFACTURING AND DISTRIBUTING PLANT

BEATTY SAFWAY SCAFFOLD, Inc.

SAN FRANCISCO, CALIFORNIA

Opening of the new manufacturing and distribution plant of the Beatty Safway Scaffold, Inc., firm in San Francisco recently, provides new facilities, along with the company's Oakland plant, for a speedy service to scaffold users in the Bay Area.

Covering two entire acres, with over 60,000 feet under cover, the new plant has been designed so that even additional service facilities may be added at any future time.

Manufacturing operations will be largely devoted to products originated by Beatty Safway including sectional steel scaffold, tubular and beam type steel and rollway grandstands and rolling towers.

The new plant will also serve as headquarters for the production and national distribution of Beatty Ribbed Aluminum scaffold, a recent Beatty innovation, the demand for which on a nationwide basis is said to be one of the major reasons for constructing the new plant. It features lightness for easy handling plus strength and adaptability, supplementing the regular line of scaffold. It also reverses the usual procedure of shipping east to west, being made here of western aluminum for nationwide shipments.

David E. Beatty, president of the firm, established operations here nine years ago after being one of the original organizers as well as vice president and general manager of Safway Scaffold Company of Milwaukee. Selling out his interests there in 1941, he took up the patents for the seven western states and established the local enterprise, which is now expanding to national proportions.

LOW INCOME HOUSING PROJECT

The Housing Authority of the City of Oakland has announced plans for the construction of 1000 units in a low income housing project which will cost when completed some $12,000,000.

The units will be located in three locations.

Selected as architects for the projects are Edw. D. Cerruti, Ralph E. Wastell, Confer & Willis, Irwin M. Johnson, and Beals, Bidwell & Macky.

LARGE BUILDING FOR SAN FRANCISCO

The Equitable Life Insurance Society of the United States, recently purchased the property at the corner of Sutter and Montgomery streets, San Francisco, and will soon start the construction of a 15 story, modern office building.

The building will cost approximately $5,000,000.

WITH THE ENGINEERS

Structural Engineers Association of Northern California
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Structural Engineers Association of Central California
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Structural Engineers Association of Southern California
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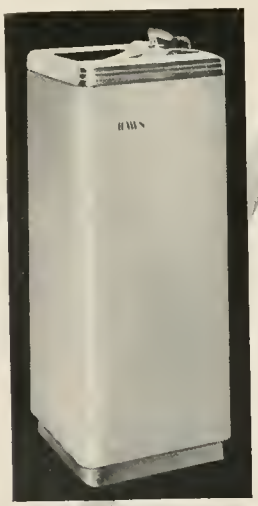
UNIVERSITY OF CALIFORNIA STAFF SOUTHERN CALIFORNIA EXTENSION

Appointment of sixteen new instructors to the engineering teaching staff of the University of California Extension, Los Angeles, for the Fall term has been announced by L. M. K. Boelter, Dean of the U.C.L.A. College of Engineering and head of the Engineering Extension.

The new faculty members will include: Owen S. Lieberg, Charles C. Dyson, Robert C. Hopkins, Norman F. Parker, C. Martin Duke, Loring E. Tabor, Charles Mackintosh, Robert E. Nusbaum, Donald C. Tillman, Max J. Taves, Mitchell Marcus, Lester Morris, Warren T. Jessup, Charles D. Clark, C. E. Van Hagan, Lester F. Dehmel.

Over 75 engineering courses are offered in the Fall curriculum giving local engineers an opportunity to study in such areas as Fundamentals of Television, Rocket Motors, Cadastral and Topographic Mapping, Architectural Drawing, Review of Engineering Fundamentals, Fundamentals of Subdivision Design, Structural Analysis, Theory of Structures, Elementary Refrigeration, Sales Engineering, Automatic Control of Aircraft, Hydraulics Review for Civil Engineers, and Practical Applications of Law for the Furniture Manufacturer.



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ELECTED LIFE MEMBERS OF ENGINEERING SOCIETY

The American Society of Heating and Ventilating Engineers recently announced the election of eight Life Members of the Society.

Leaders in the field of heating, ventilating and air conditioning honored with the Life Memberships are: L. L. Anthes, Toronto, Canada; H. P. Gant, Glenmore, Pa.; William McClintock, New York City; L. Walter Moon, St. Louis, Mo.; Robert M. Rosebrough, Webster Groves, Mo.; J. O. Ross, New York City; Alfred F. Stacey, Jr., Syracuse, N. Y.; and Walter G. W. Turno, East Orange, New Jersey.

STRUCTURAL ENGINEERS ASSOCIATION OF CALIFORNIA

Harry W. Bolin, President of the Structural Engineers Association of California, and Leonard W. Ross, General Chairman of the 19th Annual Convention to be held in Coronado on October 12, 13 and 14, have announced additional convention program plans.

The technical program under the direction of William T. Wright is assembling a group of men

from all parts of the United States to highlight recent advantages in their fields of structural engineering.

"Modern and Stone Age Construction" by Major General Leif Sverdrup, Sverdrup and Parcel, St. Louis, Mo. General Sverdrup will show motion pictures of actual war time construction in the Pacific. He was awarded the Distinguished Service Cross for leading the reconnaissance and capture of Lingayen airfield on Luzon.

A symposium on lightweight concrete includes "Design Experience" by Murray Erick, Los Angeles, whose recent assignments included the Prudential and General Petroleum buildings in Los Angeles; a paper by Prof. R. E. Davis, director, Engineering Materials Laboratory, University of California at Berkeley, an acknowledged authority on this subject; and "Construction Experience" by Paul Elsner, San Francisco, chief engineer, Lindgren and Swinerton, Inc., general contractors for the new addition to the State Capitol in Sacramento, an outstanding example of the use of lightweight concrete in large buildings.

"Structural Steel Fireproofing" by C. M. Corbit, Jr., Los Angeles, American Institute of Steel, from a background of 26 years in the Southern California steel industry.

"Lightweight Steel" by Bert L. Wood, New York City, American Iron and Steel Institute research chief. Wood is also an authority on Building Construction Codes in the United States.

"Glued Laminated Wood Used in Structural Design" by Alan Freas, Madison, Wisc., Forest Products Laboratory, U. S. Department of Agriculture, is a specialist in glued lumber and its application in design.

"Design of Protective Structures"—a new concept of structural behavior, by A. Amirikian, head designing engineer, Special Engineering Section, Bureau of Yards and Docks, Navy Department, Washington, D. C.

"Prestressed and Prefabricated Concrete" by Thor Germundsson, Chicago, Ill., Structural and Railways Bureau, Portland Cement Association. Leonard Hollister, Sacramento, Calif., engineer of design, California State Division of Highways and Bridges will discuss prestressed concretes adaption to bridge design.

Guest speaker will be Tony Whan, president, Pacific Indoor Advertising Co.; vice-president, Pacific Outdoor Advertising Co.; past president, Los Angeles Sales Executives Club; vice-president, Southern California Business Men's Assoc.; past president, Food Industries Sales Managers Club of L. A.; Director of Illuminators; past president, K.S.C. Alumnae Association; Coordination of C. E. D. Selling Program.

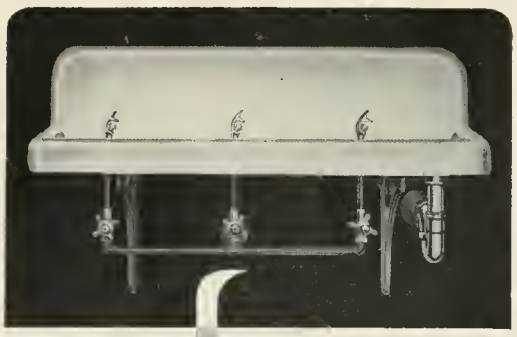
Hotel del Coronado will be the meeting place. The hotel will prove of great interest to its engineer guests. It was built in 1887 under the direction of James Reid, Reid Bros., who also were the architects for the Call Building which survived the San Francisco Earthquake structurally sound. The panelling of the great arched suspended dining room ceiling (62' wide, 156' long and 33' high) and the solid Illinois oak lobby and main stair way are a line example of another period in architecture when wood was king. The original plans by James Reid will be on view during the Convention.

STRUCTURAL ENGINEERS ASSOCIATION OF SOUTHERN CALIFORNIA

John S. Davey, Assistant General Manager of Sales of the Russell, Burdsall & Ward Bolt and Nut Company, was the principal speaker at the regular September meeting.

Taking as his subject "Benefits from High Strength Bolts in Structure", Davey discussed the results of a recent publication of one of the projects being carried on by the Research Council on Riveted and Bolted Structural Joints. Illustrated slides emphasized many of the speakers major points of discussion.

(See Page 33)



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PRODUCER'S COUNCIL PAGE

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Vice-President, A. J. MacJennett, Mueller Brass Company, 475 Ninth Street
Secretary, Art Staat, Natural Gas Equipment Inc., 1150 Folsom Street
Treasurer, Fred A. Figone, Otis Elevator Co., 1 Beach Street

Edited by Don W. Lyon, LIBBEY-OWENS-FORD GLASS CO.

Producers to Participate in Yosemite Panel Discussions

If provocative titles are indicative, California Architects assembled for their 23rd annual Convention late this month are in for some fun. Invited to participate in two of the six panel discussions for the first time, members of the Producers' Council have come up with "The Cold War of Product Information" and "What's Wrong With Architects' Specifications" as subjects for the symposia.

Art Staat, in charge of the Producers' arrangements for the Convention and Vice-President of the Northern California Chapter, has named C. W. Kraft, President of the Kraftile Co. as Moderator for the free-for-all on product literature. Those selected on the panel are George P. Simonds, AIA, who will lead off with "Information vs. Propaganda" and Paul Wagner of the Armstrong Cork Co., San Francisco, who will counter with "Sales Are Made Not Born". Contributing practical information to the discussion will be Barry W. Boland of the advertising firm of Walther-Boland Associates, San Francisco, whose topic is "The Sum and Substance of Product Literature". The fourth member of the slate, F. Bourn Hayne, AIA, who has already devoted much study to the problem will bring the pot to a boil with his summation "So What?"

Nominated to serve as Moderator for the critique on specifications is Don W. Lyon, San Francisco District Manager for the Libbey Owens Ford Glass Co. Spearheading the attack on current practices in specification writing, William C. "Bill" Thieleman, Pioneer Division of the Flintkote Co. will analyze the problem from the viewpoint of the building material manufacturer. The sub-contractor's viewpoint will be presented by Angelo J. Danieri of the San Francisco firm of Smith & Danieri, plastering contractors. William C. "Bill" Tait of the firm of W. C. Tait, Inc., San Francisco will complete the indictment of the profession from the standpoint of the general contractor. When the smoke has cleared, Vincent G. Raney, AIA, will attempt to defend the profession against this array of talent. Although outnumbered on the platform Raney is not only well versed at in-fighting but will have the moral support of most of the audience. Few casualties are expected.

The Producers' Council sincerely hopes its long awaited opportunity to participate in the more serious side of the California Council of Architects' conventions presages other appearances on future programs.

Producers to Assist in Convention Sports

Since President George Conley will have the misfortune to be in New York during the Yosemite show, "Veep" Art Staat announces that local chapter members will again be prominent in assisting the architects stage their various athletic and recreational activities. Those selected to assist are A. C. Boldeman, Libbey-Owens-Ford—BADMINTON; Ray Brown, Gladding McBean—BASEBALL; Boris Kitchin, Master Builders—CROQUET; Fred Figone, Otis Elevator—GOLF; Tait Smith, Ceco Steel—HORSESHOES; Lloyd Cramer, Westinghouse Elevator—PITCH & PUTT; and Paul Wagner, Armstrong Cork—TENNIS.

In accordance with tradition the Sportsmen's Dinner to be held on the closing eve of the Convention will be staged by the two California Chapters of the Producers. With Don Lyon as Master of Ceremonies, the Producers hope to break all records in the numbers and magnificence of the prizes to be awarded to the winners of each tournament. Don't miss it if you can.

USE QUALITY PRODUCTS — THE PRODUCERS' COUNCIL — MANUFACTURERS OF QUALITY BUILDING PRODUCTS — CONSULT AN ARCHITECT

WITH THE ENGINEERS

(From Page 31)

New Members include Francis McDonald, Jr., and Rossiter L. White, Associate Members; and William C. Taylor, Junior Member.

NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

Committee appointments for the year 1950-51 of the National Society of Professional Engineers has just been anounced by Sidney L. Stolte, President.

Among the committee chairmen that will oversee the work of the Society among its 24,000 professional engineer members are: T. C. Forest, Jr., Dallas, Texas, Ethical Practices; Orland C. Mayer, Boise, Idaho, Extension; Oscar Koch, Dallas, Texas, International Relations, and Col. Chester Lichtenberg, Ft. Wayne, Ind., Young Engineers.

NEW DISTRICT ENGINEERS ASSIGNED WESTERN OFFICE

Major General Lewis A. Pick, Chief of Army Engineers, recently announced the assignment of new District Engineers for San Francisco and Seattle.

Colonel Kenneth M. Moore will become District Engineer for San Francisco, succeeding Colonel Fremont S. Tandy who has been reassigned to troop duty at Camp Carson, Colorado.

Lieutenant Colonel John P. Buchler will become District Engineer at Seattle, replacing Colonel Emerson C. Itschner, who has also been reassigned to troop duty at Fort Sheridan, Illinois.

AMERICA'S ENGINEERS REPORT STUDY OF EXCESSIVE AND UNSOUND WATER PRACTICE

America's engineering profession recently issued a strong protest against "excessive and unsound" water resources practices attributed to competing Federal agencies and Congressional "response to pressure and trading". The report also demands a halt in any further projects until a uniform national policy has been adopted.

The sharply-worded report differing drastically from the customary scientific language of the profession, was drafted by an 80-man committee of the Engineers Joint Council representing the country's five major engineering societies.

In addition to listing specific remedies, the report reminds President Truman, his Water Resources Policy Commission, and both political parties that "public money is limited in availability" and that "political expediency" tactics and "exaggeration of benefits claimed" should be halted immediately. If not the "estimates of benefits will soon become mere excuses for justification, not valid reasons for construction of projects."

Some homes are fire-proof—others, weather-proof, rust-proof, termite-proof or earthquake-proof.

But every home should be "Octopus-proof".

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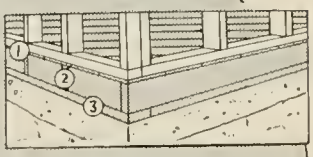

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HEADLINE NEWS & VIEWS

By E. H. W.

ONE dollar out of every six of loan insurance written by the FHA is for the repair, alteration, and improvement of existing properties.

* * *

IT is estimated GI veterans of World War II buy an average of 50,000 homes a month. Vet's have until 1957 to buy under the GI Bill of Rights.

* * *

THERE are more than 200 steel companies competing for the customer's dollar.

* * *

THE budget for operation of the University of California for the fiscal year 1950-51 has been set at $54,097,592.25—an increase of 6.4 per cent over the previous year.

* * *

INVESTIGATION of the safety of refrigeration equipment has resulted in a complete revision of the American Standard Safety Code for Mechanical Refrigeration—it has the approval of 36 national organizations.

* * *

CONSTRUCTION volume for the first six months of this year is approximately 50% higher than the same period for a year ago.

* * *

THE American Concrete Institute will hold a regional meeting in Washington, D. C., October 24-26. Frank H. Jackson is president.

* * *

ACCORDING to the National Association of Home Builders there are only two real shortages in building materials—gypsum board and cement.

* * *

AS a service to tenants in Los Angeles, to prevent exhorbitant rent increases, evictions or personal hardships during the adjustment period following removal of rent controls by the Los Angeles City Council, landlords have organized the Decontrol Rent Referral Committee.

* * *

CHARGING that Title IV of Senate Bill 3936 and House Bill 9176 will "bring chaos to all private business," J. M. Udall, president of the Los Angeles Realty Board and representing southern California realty groups, recently filed a protest against any such licensing system.

* * *

THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA, is taking an active part with governmental authorities in mobilizing the general contracting industry to effectively meet the nation's present defense programs.

A.I.A. ACTIVITIES

(From Page 28)

would give the thorough knowledge of the fundamental principles and theories of professional architecture. Applicants must also have had 1 to 3 years of experience in professional architecture. Graduate study in architecture may be substituted for professional experience up to a maximum of 2 years of experience.

Age limits are 18 to 62 years, with veteran preference. Complete information from any U. S. Civil Service agency.

SOUTHERN CALIFORNIA CHAPTER

The BULLETIN takes on a "new look" with the August issue. Along with the "new look" is a new approach to handling of Chapter activities with a lot more members taking a lot more interest in the affairs of their organization.

New Members: Alexander Ban, John C. Lindsay, and Burton A. Schutt.

FIVE STATE ARCHITECTURAL CONFERENCE IN NEBRASKA

Architects from a five state area will meet in Omaha, Nebraska, on October 13 and 14 for the annual convention of the Central States District of the American Institute of Architects.

The Nebraska Chapter, A.I.A., of which Frank N. McNett is President, will be hosts to the architects from Iowa, Kansas, Oklahoma, Missouri and Nebraska.

The two day program will include an exhibition of work of the visiting architects in the Joslyn Memorial Art Museum.

ARCHITECTURAL COMPETITION FOR INDIANAPOLIS HOME SHOW 1951

The Indianapolis Home Show, Inc., has announced a competition for the selection of a house design for their 1951 event.

The purpose of the competition is to encourage the creation of the best possible house design for use in the 1951 Indianapolis Home Show; to arouse and increase the interest of architects, designers, draftsmen and students, in the creation of a house design embodying the maximum of modern efficient living conditions, with an exterior of truly lasting style and beauty.

Any architect, designer, or draftsman, or student in a recognized school of architecture may participate. There are no geographical limitations, and any competitor may submit more than one design.

Complete information may be secured from Richard E. Bishop, Architectural Advisor, Indianapolis Home Show, 1456 N. Delaware Street, Indianapolis, Indiana.

SELECT PRODUCT EXHIBIT PLANNED FOR A.I.A. MAY CONVENTION

For the first time in 83 years of annual convention meetings, The American Institute of Architects will include a selected products exhibit at its 1951 Convention, scheduled for next May in Chicago.

Paul Gerhardt, Jr., F.A.I.A. and City Architect of Chicago, has been appointed Chairman of the Committee in charge of the exhibit which is being designed to provide the architectural profession with graphic educational information concerning building product developments and trends in construction methods and techniques.

"NEW VALUES" will be the theme of the exhibit and products will be limited to fifty qualifying under (a) Conformance to the theme, (b) Susceptibility to display, (c) Broad interest, (d) News-worthy, and (e) Timely.

The Committee hopes that lesser known developments will be brought to their attention for consideration of exhibit acceptance.

SIR FRANCIS DRAKE HIGH SCHOOL — The Tamalpais Union High School District of Mill Valley (California) recently announced plans for the construction of a new Sir Francis Drake High School at San Anselmo at a cost of $1,286,000. Falk & Associates, San Francisco, are the architects.

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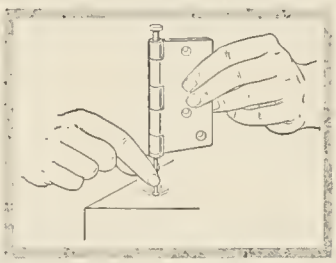

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BOOK REVIEWS
PAMPHLETS AND CATALOGUES

THE PRACTICAL APPLICATION OF ACOUSTIC PRINCIPLES. By D. J. W. Cullum. E. & F. N. Spon. Ltd., London (Macmillan Co., N. Y.). Price $3.00.

Based upon a wide experience, this authoritative work has been written to serve as a key to acoustic problems.

Important constructional features have been selected for analysis, and common acoustic faults are pointed out as well as features which have given satisfaction.

Mathematical treatment has been kept to a minimum, however, the book is well illustrated with charts and tables to permit a thorough understanding of practical cases.

HIGHWAYS IN OUR NATIONAL LIFE. By Jean Labatut and Wheaton J. Lane. Princeton University Press, Princeton, N. J. Price $7.50.

Nearly every aspect of the modern highway is considered in this comprehensive book. The authors give a sweeping analysis of the "highway revolution" and bring facts and interpretations from many fields of knowledge, plus numerous illustrations.

Engineers, architects, regional and city planners, economists, sociologists, and safety and traffic specialists all contribute to the handling of the book's content. Chapters deal with design of highway, including intersections and expressways, and controlled-access highways; construction, landscaping, and maintenance.

PROJECTION DRAWING FOR ARCHITECTS. By William Wirt Turner. The Ronald Press Company, New York. Price $3.00.

The author is professor and head of the Department of Engineering Drawing at the University of Notre Dame and in this book he has compiled information and data primarily for architectural students who must obtain in the shortest possible time, a mastery of the fundamentals of projection drawing. The text is brief and leads the student through an orderly sequence of basic phases of drawing.

Numerous charts, drawings, and examples are included.

NEW CATALOGUES AVAILABLE

Any of the catalogues or folders described here may be obtained by forwarding your request as indicated in the coupon below to the office of the ARCHITECT & ENGINEER. *Merely mark the items you want and clip or paste the coupon to your letterhead.*

200. STRIP-LINE FLUORESCENT LIGHTING SYSTEM. The new catalog issued by the Benjamin Electric Manufacturing Company shows Strip-Line features and specifications, system and mounting information as well as tables showing length, power consumption, etc., are included. A.I.A. 31 F. 23, 10 pages illustrated, 9/50.

201. WEISWAY CABINET SHOWERS. "Blue Print" styling and Specification Data in the new Weisway Catalog of Cabinet Showers allows detail handling by transcription from the catalog page. This method was adapted as a time saver for the Architect and Engineer and was planned for consumer use, as well, by showing a model-by-model illustration along with actual installation ideas. Other interesting features of the catalog include such practical ideas as a "Baby Shower," "Growing Children's" Shower and "Less Active" Shower. Each of these Cabinet Showers feature an additional set of handles and head mounted at a low, easy-to-reach level. A.I.A. 35-H-6, 23 pages illus., 8/50.

202. THE THINNER THE BETTER. An iron asphalt patching material which produces long life repairs and makes possible easy, fast patching or resurfacing of worn concrete floors has been announced in a new illustrated bulletin by the Mast Builders Co. According to the manufacturer, this material named Masterquick overcomes the problem of early break down under impact, particularly of feather edges. 8 pages illus., 6/50.

203. CHECKING FLOOR HINGE. A booklet outlining performance characteristics of the Pittco Checking Floor Hinge has been issued by the Pittsburgh Plate Glass Company. Various types of hinges are listed as are the performance characteristics of each. Directions for selecting the proper hinge to cope with abnormal opening factors are given in detail. 8 pages illus., 8/50.

204. ACOUSTICAL TILE APPLIED TO WOOD FURRING STRIPS WITH CLIPS. A simple folder shows detail of a new type of Acoustical Tile installation using Nelson Acoustical Quick-Clips and wood furring strips. According to the detail a furring strip of ¾" plateress channel is used over which the Quick-Clip fits. The clips are fastened into the tile with oval loops, half of each loop is imbedded horizontally into each adjoining tile. One man working by himself, with no tools, has been able to install a ceiling without assistance at the rate of at least 90 square feet per hour on straight going. A.I.A. 39-B-1, 2 pages illus., 8/50.

206. WESTERN RED CEDAR FACTS FOLDER. Availability of a new Western Red Cedar Facts Folder is announced by the Western Pine Association. The folder outlines the botanical history and classification, growth range, properties and uses of Western Red Cedar in the Western Pine region. It also covers in brief the grades into which it is manufactured. P5-9, 4 pages illus., 5/50.

207. ASPHALT TILE FLOOR MAINTENANCE. A new folder containing complete instructions and recommendations on the proper care and maintenance of floors has just been released by the Asphalt Tile Institute. The folder gives simple rules for cleaning and waxing, and also describes the recommended types of casters, glides, and other floor protection equipment to be used on furniture to prevent marring or indenting the surfaces of asphalt tile and other resilient floors. 8 pages illus., 7/50.

208. NON-METALLIC TOILET PARTITIONS. The new type Petco Wal-Sa-Part Toilet partition is shown in detail in a folder just released by the J. C. Petterson Company. Specification and installation detail are shown as well as description of this non-metallic type construction. A.I.A. 35-H-6, 4 pages illus., 7/50.

209. Q-FLOOR WIRING INSTALLATION. A concise résumé of "why and where" to install Q-Floor wiring is available in a new booklet just issued by General Electric's Construction Materials Department. Directed to the architect, electrical contractor, and building owner, the booklet explains Q-Floor and Q-Floor wiring advantages, with actual figures on savings in structural steel and foundations, as well as savings realized by the elimination of temporary planking, wooden forms, etc. 18-110 UF, 7/50.

210. POWERSTAT VARIABLE TRANSFORMERS. The Superior Electric Company has released a new bulletin featuring the complete line of standard Powerstat variable transformers. This new bulletin describes in detail both manually operated and motor-driven Powerstat variable transformers and Powerstat Line Correctors. A complete rating chart occupying the back cover provides engineers and architects with a quick selector index, 16 pages illus., 7/50.

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I would like to have a copy of each of the New Catalogues I have circled.

200	202	204	207	209
201	203	206	208	210

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NEW NEWSPAPER BUILDING—The Richmond Daily Independent, Richmond, will soon start construction of a new newspaper publishing building of which architect Donald L. Hardison of Richmond will be the designer.

ARCHITECT FOR NEW HIGH SCHOOL—C. B. Alford, architect of Bakersfield, has been selected by the Kern County High School District to draft plans for the Alfred Harrell High School building at Oildale, California.

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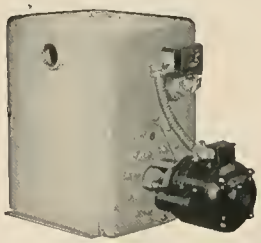

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MAIN OFFICE — SANTA CLARA

$100,000,000 LOW INCOME HOUSING

(From Page 9)

will be taken to add 200 units on 7 acres. There are now 137 persons on the site in housing that is 100% sub-standard. Architect is Armand Monaco.

Hacienda Village at 1515 East 105th Street, where an area will provide 400 units of housing on 2 acres. Present population is 952 people, living in housing which is 80.5% sub-standard. Associated architects are Burnett C. Turner and the firm of Ain, Johnson & Day.

Estrada Courts at 3232 Estrada Street, an area west of Lorena Street and north of Olympic Boulevard, partially involving reconstruction of a 100-unit war-temporary project, will furnish an additional 200 units on 11 acres. The extra acreage to be taken in now houses 153 people in 92% sub-standard accommodations. Architect is Paul Hunter.

Planned Projects

Two planned reconstructions involve Jordan Downs at 2151 Century Boulevard and Imperial Courts at 2200 East 14th Street, both in Southeast Los Angeles. In the case of the former, 59 acres west of Jordan High School and north of 103rd Street, will accommodate 550 dwelling units, with James R. Friend as the architect. The latter involves 37 acres north of Imperial Highway and west of Mono Boulevard, just inside the city limits. Here 500 units are planned. Spaulding, Rex & DeSwarte are the architects.

Other sites include

Imperial-Compton, between Central Avenue and Compton Avenue, north of Imperial Highway, involves 67½ acres on which 1200 units are planned. Present population is 906 persons living in housing which is 72% sub-standard. Paul Williams is the architect.

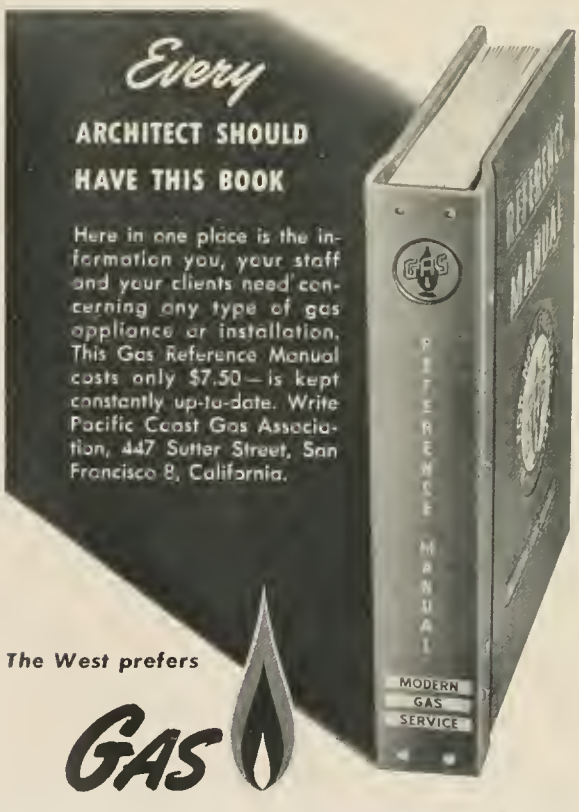
A West Los Angeles area of 53 acres, north of the Ballona Creek Flood Control District and west of Inglewood Boulevard. This is a largely vacant area in which 89 persons live in 100% sub-standard housing. 500 units are planned here with Albert Criz as the architect.

A 44-acre site in Pacoima in the San Fernando Valley east of Van Nuys Boulevard and north of San Fernando Road. 709 persons presently occupy the area, with the housinfg being 99% sub-standard. Present plans call for 300 new units of low-rent housing. Arthur Gallion is the architect.

The program is the City Housing Authority's second major attack upon the sub-standard housing areas of Los Angeles, and an effort to replace them with decent, safe and sanitary housing at rents that the people who are forced to live in sub-standard housing can afford to pay.

While the new program presents the problem of relocating approximately 3400 families, the Housing Authority will be able to solve the problem satisfactorily, as the Authority has already been able to move some 2000 people from a crowded three-block area on Bunker Hill to make way for the new Water and Power office buildings and has relocated additional hundreds from the First and San Pedro areas where the new Police and Health Buildings will eventually arise. These relocations involved people of all races and economic conditions, yet were carried out without friction of any kind.

All construction on the new program will be permanent and of fire-proof materials with an estimated minimum useful life of 40 years. Financing will be accomplished through the sale of Authority Bonds to banks and lending institutions.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ENGINEER'S OFFICES MOVED

The offices of H. B. Gieb & Associates, Engineers, Dallas, Texas, have been moved to the Professional Building, same city, according to a recent announcement from the firm.

The Professional Building is located at 2719 McKinney Avenue.

ESTIMATOR'S GUIDE

BUILDING AND CONSTRUCTION MATERIALS

PRICES GIVEN ARE FIGURING PRICES AND ARE MADE UP FROM AVERAGE QUOTATIONS FURNISHED BY MATERIAL HOUSES TO SAN FRANCISCO CONTRACTORS. 3% SALES TAX ON ALL MATERIALS BUT NOT LABOR

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

BONDS—Performance or Performance plus Labor and Material Bond(s), $10 per $1000 on contract price. Labor & Material Bond(s) only, $5.00 per $1000 on contract price.

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Common Brick—Per 1M laid—$100.00 up (according to class of work).

Face Brick—Per 1M laid—$200.00 and up (according to class of work).

Brick Steps—$3.00 and up.

Common Brick Veneer on Frame Bldgs.—Approx. $1.20 and up—according to class of work).

Face Brick Veneer on Frame Bldgs.—Approx. $2.00 and up (according to class of work).

Common Brick—$34.00 per M—truckload lots, delivered.

Face Brick—$81.00 to $106.00 per M, truckload lots, delivered.

Mantel Fire Brick—$90.00 per M—F.O.B. Pittsburgh.

Fire Brick—Per M—$96.00 to $130.00.

Cartage—Approx. $9.00 per M.

Paving—$75.00.

BUILDING PAPER & FELTS

1 ply per 1000 ft. roll	$5.30
2 ply per 1000 ft. roll	7.80
3 ply per 1000 ft. roll	9.70
Brownskin, Standard 500 ft. roll	6.85
Sisalkraft, reinforced, 500 ft. roll	7.00
Sheathing Papers—	
Asphalt sheathing, 15-lb. roll	$1.98
30-lb. roll	2.93
Campcourse, 216-ft. roll	2.95
Blue Plasterboard, 60-lb. roll	5.10
Felt Papers—	
Deadening felt, 3/4-lb., 50-ft. roll	$3.13
Deadening felt, 1-lb.	3.69
Alphalt roofing, 15 lbs.	1.98
Asphalt roofing, 30 lbs.	2.93
Roofing Papers—	
Standard Grade, 108-ft. roll, Light	$1.74
Medium	2.03
Heavy	2.40
Extra Heavy	2.77

BUILDING HARDWARE—

Sash cord com. No. 7	$2.65 per 100 ft.
Sash cord com. No. 8	3.80 per 100 ft.
Sash cord spot No. 7	3.65 per 100 ft.
Sash cord spot No. 8	4.00 per 100 ft.
Sash weights, cast iron, $100.00 ton.	
1-Ton lots, per 100 lbs.	$3.75
Less than 1-ton lots, per 100 lbs.	$4.75
Nails, per keg, base	$11.00
8-in. spikes	11.00
Rim Knob lock sets	3.50
Butts, dull brass plated on steel, 3½x3½	.71

CONCRETE AGGREGATES—

The following prices net to Contractors unless otherwise shown. Carload lots only.

	Bunker per ton	Del'd per ton
Gravel, all sizes	$2.44	$2.90
Top Sand	2.38	3.13
Concrete Mix	2.38	3.06
Crushed Rock, 1/4" to 3/4"	2.38	2.90
Crushed Rock, 3/4" to 1½"	2.38	2.90
Roofing Gravel	2.81	2.90
River Sand	2.50	3.00
Sand—		
Lapis (Nos. 2 & 4)	3.56	3.94
Olympia (Nos. 1 & 2)	3.56	3.88

Cement—

Common (all brands, paper sacks), carload lots, $3.39 per bbl. f.o.b. car; delivered $3.60.

Per Sack, small quantity (paper) $1.00

Carload lots, in bulk per bbl. 2.79

Cash discount on carload lots, 10c a bbl., 10th Prox., less than carload lots $4.00 per bbl. f.o.b. warehouse or delivered.

Cash discount 2% on L.C.L.

Trinity White, Medusa White: 1 to 100 sacks, $3.13 sack warehouse or del.; $9.56 bbl. carload lots.

CONCRETE READY-MIX—

1-2-4 mix, to 10 yards*	$11.15
10 to 100* yards	10.15
100 to 500 yards	9.65
Over 500 yards	9.45

* Delivered to site.

CONCRETE BLOCKS—

	Haydite	Basalt
4x8x16-inches, each	$.16	$.16
6x8x16-inches, each	.21	.21
8x8x16-inches, each	.25	.25
12x8x16-inches, each	.33	.375
12x8x24-inches, each		.60

Haydite Aggregates—

3/4-inch to 3/8-inch, per cu. yd.	$6.50
3/8-inch to 1/8-inch, per cu. yd.	6.50
1/8-inch to 0-inch, per cu. yd.	7.00

DAMPPROOFING and Waterproofing—

Two-coat work, $9.00 per square.

Membrane waterproofing—4 layers of saturated felt, $10.00 per square.

Hot coating work, $5.00 per square.

Medusa Waterproofing, $3.50 per lb. San Francisco Warehouse.

Tricosal concrete waterproofing. 50c a cubic yd. and up.

ELECTRIC WIRING—$15 to $20 per outlet for conduit work (including switches).

Knob and tube average $6.00 per outlet. (Available only for priority work.)

ELEVATORS—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing a slow speed automatic passenger elevator in small four story apartment building, including entrance doors, about $8000.00.

EXCAVATION—

Sand, $1.00; clay or shale, $1.50 per yard.

Trucks, $30 to $45 per day.

Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

FIRE ESCAPES—

Ten-foot galvanized iron balcony, with stairs, $250 installed on new buildings; $300 on old buildings.

FLOORS—

Composition Floors, such as Magnesite, 50c per square foot.

Linoflor—2 gages—$3.00 per sq. yd.

Mastipave—$1.50 per sq. yd.

Battleship Linoleum—1/8"—$3.50 sq. yd.; 3/16"—$3.50 sq. yd.

Terazzo Floors—$1.50 per sq. ft.

Terazzo Steps—$2.50 per lin. ft.

Mastic Wear Coat—according to type—20c to 35c.

Hardwood Flooring—

Standard Mill grades not available.

Victory Oak—T & G

3/8 x 2¼"	$252.00 per M. plus Cartage
½ x 2"	$210.00
½" x 1½"	200.00

Prefinished Standard & Better Oak Flooring

3/8 x 3¼"	$265.00 per M. plus Cartage
½ x 2½"	237.00 per M. plus Cartage

Maple Flooring

3/8" T & G Clear	$330.00 per M. plus Ctg.
2nd	305.00 per M. plus Ctg.
3rd	255.00 per M. plus Ctg.

Floor Layers' Wage, $2.35 hr. (Legal as of Nov. 1, 1949. Given us by Inlaid Floor Co.)

GLASS—

Single Strength Window Glass	$ .27 per □ ft.
Double Strength Window Glass	.38 per □ ft.
Plate Glass, 1/4 polished to 75	1.10 per □ ft.
Plate Glass, 1/4 polished, 75 to 100	1.40 per □ ft.
1/4 in. Polished Wire Plate Glass	2.00 per □ ft.
1/4 in. Rgh. Wire Glass	.64 per □ ft.
Obscure Glass	.45 per □ ft.
Glazing of above is adidtional.	
Glass Blocks	$2.75 per □ ft. set in place

HEATING—

Average, $2.50 to $3.00 per sq. ft. of radiation, according to conditions.

Warm air (gravity) average $64 per register.

Forced air average $91 per register.

INSULATION AND WALLBOARD—

Rockwool Insulation—
(2") ..... $65.00 per M sq. ft.
Cotton Insulation—Full-thickness
(3⅝") ..... $95.50 per M sq. ft.
Sisalation Aluminum Insulation—Aluminum coated on both sides ..... $23.50 per M sq. ft.
Tileboard—4'x6' panel ..... $9.00 per panel
Wallboard—½" thickness ..... $55.00 per M sq. ft.
Finished Plank ..... $69.00 per M sq. ft.
Ceiling Tileboard ..... $69.00 per M sq. ft.

IRON—Cost of ornamental iron, cast iron, etc., depends on designs.

LUMBER—

No. 1 Common ..... $85.00 per M
No. 2 Common ..... 83.00 per M
Select O. P. Common ..... 90.00 per M

Flooring—

	Per M Delvd.
V.G.-D.F. B & Btr. 1 x 4 T & G Flooring	$225.00
"C" and better—all	225.00
"D" and better—all	225.00
Rwd. Rustic—"A" grade, medium dry, 6 to 24 ft.	185.00
"B" grade, medium dry	150.00
Plywood	18c to 20c per ft.
Plyscord	11½c per ft.
Plywall	9c per ft.
Plyform	15c per ft.

Shingles (Rwd. not available)—
Red Cedar No. 1—$9.50 per square; No. 2, $7.00; No. 3, $5.00.
Average cost to lay shingles, $6.00 per square.
Cedar Shakes—½" to ¾" x 24/26 in handsplit tapered or split resawn, per square $15.25
¾" to 1¼" x 24/26 in split resawn, per square 17.00
Average cost to lay shakes,— 8.00 per square

MARBLE—(See Dealers)

METAL LATH EXPANDED—

Standard Diamond, 3.40, Copper Bearing, per carloads, per 100 sq. yds. $39.00
Standard Ribbed, ditto $41.00

MILLWORK—Standard.

D. F. $150 per 1000. R. W. Rustic $175 per 1000 (delivered).
Double hung box window frames, average with trim, $12.50 and up, each.
Complete door unit, $15 to $25.
Screen doors, $8.00 to $12.00 each.
Patent screen windows, $1.25 a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., upper $9.00 to $11.00; lower $12.00 to $13.00.
Dining room cases, $20.00 per lineal foot. Rough and finish about $1.00 per sq. ft.
Labor—Rough carpentry, warehouse heavy framing (average), $75.00 per M.
For smaller work average, $85.00 to $100. per 1000.

PAINTING—

Two-coat work ..... per yard 85c
Three-coat work ..... per yard $1.10
Cold water painting ..... per yard 25c
Whitewashing ..... per yard 15c

Linseed Oil, Strictly Pure (Basis 7¾ lbs. per gal.)		Raw	Boiled
Light iron drums	per gal.	$2.02	$2.08
5-gallon cans	per gal.	2.14	2.20
1-gallon cans	each	2.26	2.32
Quart cans	each	.62	.64
Pint cans	each	.34	.35

Turpentine (Basis, 7.2 lbs. per gal.)		Pure Gum Spirits
Light iron drums	per gal.	$1.00
5-gallon cans	per gal.	1.12
1-gallon cans	each	1.24
Quart cans	each	.38
Pint cans	each	.23

Replacement Oil—$2.75 per gal. in drums. $2.75 per gal. in 5-gal. containers.
Use Replacement Oil ..... $3.00 per gal. in 1 gal. cont.
A deposit of $7.50 required on all drums.

PATENT CHIMNEYS—

6-inch	$2.50 lineal foot
8-inch	3.00 lineal foot
10-inch	4.00 lineal foot
12-inch	5.00 lineal foot

PLASTER—

Neat wall, per ton delivered in S. F. in paper bags, $17.60.

PLASTERING (Interior)—

	Yard
3 Coats, metal lath and plaster	$3.00
Keene cement on metal lath	3.50
Ceilings with ¾ hot roll channels metal lath (lathed only)	3.00
Seilings with ¾ hot roll channels metal lath plastered	4.50
Single partition ¾ channel lath 1 side (lath only	3.00
Single partition ¾ channel lath 2 inches thick plastered	8.00
4-inch double partition ¾ channel lath 2 sides (lath only)	5.75
4-inch double partition ¾ channel lath 2 sides plastered	8.75
Thermax single partition; 1" channels; 2¼" overall partition width. Plastered both sides	7.50
Thermax double partition; 1" channels; 4¾" overall partition width. Plastered both sides	11.00
3 Coats over 1" Thermax nailed to one side wood studs or joists	4.50
3 Coats over 1" Thermax suspended to one side wood studs with spring sound isolation clip	5.00

Note—Channel lath controlled by limitation orders.

PLASTERING (Exterior)—

	Yard
2 coats cement finish, brick or concrete wall	$2.50
3 coats cement finish, No. 18 gauge wire mesh	3.50

Lime—$4.00 per bbl. at yard.
Processed LLiLme—$4.15 per bbl. at yard.
Rock or Grip Lath—⅜"—30c per sq. yd.
⅝"—29c per sq. yd.
Composition Stucco—$4.00 sq. yard (applied).

PLUMBING—

From $200.00 per fixture up, according to grade, quality and runs.

ROOFING—

"Standard" tar and gravel, 4 ply—$11.00 per sq. for 30 sqs. or over.
Less than 30 sqs. $14.00 per sq.
Tile $40.00 to $50.00 per square.
No. 1 Redwood Shingles in place, 4½ in. exposure, per square $18.25
5/2 No. 1 Cedar Shingles, 5 in. exposure, per square 14.50
5/8 x 16"—No. 1 Little Giant Cedar Shingles, 5" exposure, per square.. 18.25
4/2 No. 1-24" Royal Cedar Shingles 7½" exposure, per square 23.00
Re-coat with Gravel $5.50 per sq.

Asbestos Shingles $35 to $45 per sq. laid
½ to ¾ x 25" Resawn Cedar Shakes, 10" Exposure $24.0
¾ to 1¼ x 25" Resawn Cedar Shakes, 10" Exposure $29.0
1 x 25" Resawn Cedar Shakes, 10" Exposure 22.0
Above prices are for shakes in place.

SEWER PIPE—

C.I. 6-in. to 24-in. B. & S. Class B and heavier, per ton ..... $99.
Vitrified, per foot:
Standard, 8-in. ..... $.
Standard, 12-in. ..... 1.
Standard, 24-in. ..... $.
Clay Drain Pipe, per 1,000 L.F. in carload lots:
Standard, 6-in. ..... $211.
Standard, 8-in. ..... 352.

SHEET METAL—

Windows—Metal, $2.50 a sq. ft.
Fire doors (average), including hardwa $2.80 per sq. ft., size 12'x12'. $3.75 p sq. ft., size 3'x6'.

SKYLIGHTS—(not glazed)

Copper, $1.25 sq. ft. (flat).
Galvanized iron, 65c sq. ft. (flat).
Vented hip skylights, $1.50 sq. ft.

STEEL—STRUCTURAL—

$220 per ton erected, when out of m
$270 per ton erected, when out of stoc

STEEL REINFORCING—

$200.00 per ton, in place.
¼-in. Rd. (Less than 1 ton) ..... $7.
⅜-in. Rd. (Less than 1 ton) ..... 6.
½-in. Rd. (Less than 1 ton) ..... 6.
⅝-in. Rd. (Less than 1 ton) ..... 6.
¾-in. & ⅞-in. Rd. (Less than 1 ton).. 5.
1-in. & up (Less than 1 ton) ..... 5.
1 ton to 5 tons, deduct 15c.

STORE FRONTS (None available).

TILE—

Ceramic Tile Floors—Commercial $1.15 $1.50.
Cove Base—$1.35 per lin. ft.
Tile Wainscot & Floors—Residential $1.50 $1.75.
Tile Wainscot—Commercial $1.35 to $1.50.
Asphalt Tile Floor ⅛" x ⅞"—$ .40 per sq. ft Light shades slightly higher.
Cork Tile—$1.00 per sq. ft.
Mosaic Floors—See dealers.
Lino-Tile—$1.00 per sq. ft.

Wall Tile—
Glazed Terra Cotta Wall Units (single face laid in place—approximate prices:

2 x 6 x 12	$1.25 sq.
4 x 6 x 12	1.50 sq.
2 x 8 x 16	1.45 sq.
4 x 8 x 16	1.75 sq.

Building Tile—

8x5½x12-inches, per M	$139
6x5½x12-inches, per M	105
4x5½x12-inches, per M	84

Hollow Tile—

12x12x2-inches, per M	$116
12x12x3-inches, per M	124
12x12x4-inches, per M	140
12x12x6-inches, per M	186

F.O.B. Plant

VENETIAN BLINDS—

75c per square foot and up. Installati extra.

WINDOWS—STEEL—

60c per square foot, $5 for ventilators.

ARCHITECT AND ENGINEER
ESTIMATOR'S DIRECTORY
Building And Construction Materials

EXPLANATION—Building and construction materials are shown in major classified groups for general identification purposes with names and addresses of suppliers of materials listed in detail under group classification where name first appears—main offices are shown first, with branch or district offices following. The numeral appearing in listings refers to the major group classification where complete data on the dealer, or representative, may be found.

RCHITECTURAL VENEER (a)
ramic Veneer
PACIFIC CLAY PRODUCTS
San Francisco: 605 Market St., GA 1-3970
Los Angeles, Portland, Salt Lake City
GLADDING, McBEAN & CO. *(1)
rcelain Veneer
PORCELAIN ENAMEL PUBLICITY BUREAU
(Dept. AE-450)
Room 601, Franklin Building, Oakland 12, California
P. O. Box 186, East Pasadena Station, Pasadena 8, California
anite Veneer
VERMONT MARBLE COMPANY
San Francisco: 525 Market Street, SU 1-6747
rble Veneer
VERMONT MARBLE COMPANY
San Francisco: 525 Market Street, SU 1-6747

ICKWORK (1)
ce Brick
GLADDING, McBEAN & CO.
San Francisco: Harrison at 9th Sts., UN 1-7400
Los Angeles: 2901 Los Feliz Blvd., OL 2121
Offices at Portland, Seattle, Spokane
KRAFTILE
Niles, California, Niles 3611
San Francisco 5: 50 Hawthorne St., DO 2-3780
Los Angeles 13: 406 South Main St., MU 7241
REMILLARD-DANDINI CO.
San Francisco: 400 Montgomery St., EX 2-4988

ILDING PAPER & FELTS (2)
SISALKRAFT COMPANY
San Francisco: 55 New Montgomery St., EX 2-3066
Chicago, Ill.: 205 West Wacker Drive
ANGIER PACIFIC CORP.
San Francisco 5: 55 New Montgomery St., DO 2-4416
Los Angeles: 7424 Sunset Boulevard

ILDING HARDWARE (3)
THE STANLEY WORKS
San Francisco: Monadnock Bldg., YU 6-5914
New Britain, Conn.

MENT (c)
PACIFIC PORTLAND CEMENT
San Francisco: 417 Montgomery St., GA 1-4100

ONCRETE AGGREGATES (4)
ghtweight Aggregates
AMERICAN PERLITE CORP.
Richmond, Calif.: 26th & B Sts.—Yard 2, RI 4307

RE ESCAPES (5)
OULE STEEL
ian Francisco: 1750 Army St., VA 4-4141
os Angeles, Calif.—LA 0911
ortland, Ore.—BE 5155
eattle, Wash.—SE 3010

MICHAEL & PFEFFER IRON WORKS, INC. Shingles
San Francisco 3: Tenth & Harrison Sts., MA 1-5966

FLOORS (6)
Hardwood Flooring
HOGAN LUMBER COMPANY
Oakland: Second and Alice Sts., GL 1-6861
E. K. WOOD LUMBER CO.
Los Angeles: 4710 S. Alameda St., JE 3111
Oakland: 727 Kennedy St., KE 4-8466
Portland: 827 Terminal Sales Building

GLASS (7)
W. P. FULLER COMPANY
San Francisco: 301 Mission St., EX 2-7151
Los Angeles, Calif.
Portland, Oregon

HEATING (8)
HENDERSON FURNACE & MFG. CO.
Sebastopol, Calif.
S. T. JOHNSON CO.
Oakland 8: 940 Arlington Ave., OL 2-6000
San Francisco: 585 Potrero Ave., MA 1-2757
Philadelphia 8, Pa.: 401 No. Broad St.
SCOTT COMPANY
San Francisco: 243 Minna St., YU 2-0400
Oakland: 113 - 10th St., GL 1-1937
San Jose, Calif.
Los Angeles, Calif.
THOMAS B. HUNTER (Designer)
San Francisco: 41 Sutter St., GA 1-1164

INSULATION AND WALLBOARD (9)
LUMBER MANUFACTURING CO.
San Francisco: 225 Industrial Ave., JU 7-1760
SISALKRAFT COMPANY *(2)
WESTERN ASBESTOS COMPANY
San Francisco: 675 Townsend St., KL 2-3868
Oakland: 251 Fifth Avenue, GL 1-2345
Sacramento: 1224 I Street, 2-8993
Stockton: 1120 E. Weber Ave., 4-1863
Fresno: 1837 Merced Street, 3-3277
San Jose: 201 So. Market St., BA 4359-J

IRON—Ornamental (10)
MICHEL & PFEFFER IRON WORKS, INC.* (5)

LIGHTING FIXTURES (11)
SMOOT-HOLMAN COMPANY
Inglewood, Calif., OR 8-1217
San Francisco: 55 Mississippi St., MA 1-8474

LUMBER (12)
HOGAN LUMBER COMPANY *(6)
LUMBER MANUFACTURING CO. *(9)
E. K. WOOD LUMBER CO *(6)
SIDEWALL LUMBER COMPANY
San Francisco 24: 1995 Oakdale Ave., AT 2-8112

MARBLE (13)
VERMONT MARBLE COMPANY
San Francisco: 525 Market St., SU 1-6747
Los Angeles 4: 3522 Council St., FA 7834

METAL LATH EXPANDED (14)
FORDERER CORNICE WORKS
San Francisco: 269 Potrero Ave., HE 1-4100
SOULE STEEL *(5)

MILLWORK (15)
PACIFIC MANUFACTURING COMPANY
San Francisco: 16 Beale St., GA 1-7755
Santa Clara: 2610 The Alameda, SC 607
Los Angeles: 6820 McKinley Ave., TH 4196
MULLEN MANUFACTURING COMPANY
San Francisco: 60-80 Rausch St., UN 1-5815
LUMBER MANUFACTURING COMPANY *(9)

PAINTING (16)
Paint
W. P. FULLER COMPANY *(7)

PLASTER (17)
Exteriors
PACIFIC PORTLAND CEMENT COMPANY*(4)
Interiors—Metal Lath & Trim
FORDERER CORNICE WORKS *(14)

PLASTIC CEMENT (f)
PACIFIC PORTLAND CEMENT CO.
San Francisco: 417 Montgomery St., GA 1-4100

PLUMBING (18)
THE SCOTT COMPANY *(8)
THE HALSEY TAYLOR COMPANY
Redlands, Calif.
Warren, Ohio
HAWS DRINKING FAUCET COMPANY
Berkeley 10: 1435 Fourth St., LA 5-3341
CONTINENTAL WATER HEATER COMPANY
Los Angeles 31: 1801 Pasadena Ave., CA 6178
SIMONDS MACHINERY COMPANY
San Francisco: 816 Folsom St., DO 2-6794
Los Angeles: 455 East 4th St., MU 8322
SECURITY VALVE COMPANY
Los Angeles 31: 410 San Fernando Rd., CA 6191

SEWER PIPE (19)
GLADDING, McBEAN & CO. *(1)

PACIFIC CLAY PRODUCTS
San Francisco: 605 Market St., GA 1-3970
Los Angeles, Portland, Salt Lake City

SHEET METAL (20)

Windows

DETROIT STEEL PRODUCTS COMPANY
Oakland 8: 1310 - 63rd St., OL 2-8826
San Francisco: Russ Building, DO 2-0890

MICHEL & PFEFFER IRON WORKS, INC. *(5)
SOULE STEEL COMPANY *(5)

Fire Doors

DETROIT STEEL PRODUCTS COMPANY

Skylights

DETROIT STEEL PRODUCTS COMPANY

STEEL—STRUCTURAL (21)

HERRICK IRON WORKS
Oakland: 18th & Campbell Sts., GL 1-1767

JUDSON PACIFIC-MURPHY CORP.
Emeryville: 4300 Eastshore Highway, OL 3-1717

REPUBLIC STEEL CORP.
San Francisco: 116 N. Montgomery St., GA 1-0977
Los Angeles: Edison Building
Seattle: White-Henry-Stuart Building
Salt Lake City: Walker Bank Building
Denver: Continental Oil Building

KRAFTILE COMPANY *(1)

SAN JOSE STEEL COMPANY
San Jose: 195 North Thirtieth St., CO 4184

STEEL—REINFORCING (22)

REPUBLIC STEEL CORP. *(21)
HERRICK IORN WORKS *(21)
SAN JOSE STEEL CO. *(21)

TILE (23)

GLADDING, McBEAN & CO. *(1)
KRAFTILE COMPANY *(1)
PACIFIC CLAY PRODUCTS
San Francisco: 605 Market St., GA 1-3970
Los Angeles, Portland, Salt Lake City

TIMBER—REINFORCING (6)

Trusses

WEYERHAEUSER SALES CO.
Tacoma, Wash.
St. Paul, Minn.
Newark, N. J.

Treated Timber

J. H. BAXTER CO.
San Francisco 4: 333 Montgomery St., DO 2-3883
Los Angeles 13: 601 West Fifth St., MI 6294

WALL TILE (24)

GLADDING, McBEAN & CO. *(1)
KRAFTILE COMPANY *(1)

WINDOWS STEEL (25)

DETROIT STEEL PRODUCTS CO. *(20)
MICHEL & PFEFFER IRON WORKS, INC.
SOULE STEEL COMPANY *(5)

GENERAL CONTRACTORS (26)

DINWIDDIE CONSTRUCTION COMPAN
San Francisco: Crocker Building, YU 6-271

CLINTON CONSTRUCTION COMPANY
San Francisco: 923 Folsom St., SU 1-3440

MATTOCK CONSTRUCTION COMPAN
San Francisco: 604 Mission St., GA 1-5516

STOLTE, INC.
Oakland: 8451 San Leandro Blvd., TR 2-10

SWINERTON & WALBERG COMPANY
San Francisco: 225 Bush St., GA 1-2980
Oakland: 1723 Webster St., HI 4-4322
Los Angeles, Sacramento, Denver

P. J. WALKER COMPANY
San Francisco: 391 Sutter St., YU 6-5916
Los Angeles: 3920 Whiteside St., AN 9-85

TESTING LABORATORIES (ENGINEERS & CHEMISTS) (27)

ABBOT A. HANKS, INC.
San Francisco: 624 Sacramento St., GA 1-

ROBERT W. HUNT COMPANY
San Francisco: 251 Kearny St., EX 2-4634
Los Angeles: 3050 E. Slauson, JE 9131
Chicago, New York, Pittsburgh

PITTSBURGH TESTING LABORATORY
San Francisco: 651 Howard St., EX 2-1747

BUILDING TRADES WAGE (JOB SITES) NORTHERN, CENTRAL AND SOUTHERN CALIFORNIA

ATTENTION: The following are the PREVAILING hourly rates of compensation being paid and in effect by employers by agreement between employees and their union; or as recognized and determined by the U. S. Department of Labor. (Revised to Sept. 1, 1949.)

CRAFT	San Francisco	Alameda	Contra Costa	Fresno	Sacramento	Santa Clara	Solano	Stockton	Los Angeles	San Bernardino	San Diego	Santa Barbara	Kern
ASBESTOS WORKERS	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.25	$2.25	$2.25	$2.25	$2.25*
BRICKLAYERS	3.00*	3.00	3.00	2.50	3.00	3.00	3.00	2.05*	2.625	2.625	2.625	2.625	2.625
BRICKLAYERS, HODCARRIERS	2.25	2.25	2.25	2.00	2.00	1.75	2.25	1.60*	1.75	1.75	1.75	1.75	1.75
CARPENTERS	2.16	2.16	2.175	2.175	2.175	2.175	2.175	2.175	2.20	2.20	2.20	2.20	2.20
CEMENT FINISHERS	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.28	2.28	2.28	2.28	2.28
ELECTRICIANS	2.50	2.50	2.50	2.25	2.50	2.50	2.40	2.40	2.50	2.50	2.50	2.50	2.50
ELEVATOR CONSTRUCTORS	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.25	2.25	2.25	2.25	2.25
ENGINEERS: MATERIAL HOIST	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	1.9875	1.9875	1.9875	1.9875	1.9875
PILE DRIVER	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.32	2.32	2.32	2.32	2.32
STRUCTURAL STEEL	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.30	2.30	2.2375	2.30	2.30
GLAZIERS	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.96
IRONWORKERS: ORNAMENTAL	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.255	2.255	2.255	2.255	2.255
REINF. RODMEN	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.28	2.28	2.28	2.28	2.28
STRUCTURAL	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.30	2.30	2.2375	2.30	2.30
LABORERS: BUILDING	1.55	1.55	1.55	1.45	1.55	1.45	1.55	1.55	1.65	1.65	1.65	1.65	1.65
CONCRETE	1.55	1.55	1.55	1.45	1.55	1.45	1.55	1.55	1.65	1.65	1.65	1.65	1.65
LATHERS	2.8125	2.8125	2.8125	2.8125	2.00*	2.50*	2.8125	2.8125	2.50	2.50	2.50	2.50	2.50
MARBLE SETTERS	2.375	2.375	2.375	2.375	2.375	2.375	2.375	2.375	2.25	2.25	2.25	2.25	2.25
MOSAIC & TERRAZZO	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.40	2.40	2.20	2.40	2.40
PAINTERS	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.22	2.22	2.22	2.22	2.22
PILEDRIVERS	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.33	2.33	2.33	2.33	2.33
PLASTERERS	2.8125	2.50*	2.50*	2.25*	2.25*	2.50*	2.50*	2.8125	2.50	2.75	2.50	2.50	2.50
PLASTERERS, HODCARRIERS	2.50	2.25*	2.25*	1.775*	2.00*	2.00*	2.25*	2.16	2.15	2.25	2.30	2.00	2.00
PLUMBERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
ROOFERS	2.25	2.25	2.25	1.875	2.00	2.00	2.16	2.25	2.25	2.00	1.90	2.00	2.00
SHEET METAL WORKERS	2.25	2.25	2.25	2.125	2.30	2.40	2.125	2.125	2.15	2.15	2.175	2.00	2.15
SPRINKLER FITTERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.25	2.25	2.25	2.25	2.25
STEAMFITTERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
STONESETTERS (MASON)	3.00	2.8125	2.8125	2.25*	2.8125	2.8125	2.8125	2.05*	1.50	1.50	1.50	2.625	1.715
TILESETTERS	2.675	2.675	2.675	2.15	2.00	2.675	2.675	2.4375	2.50	2.50	2.20	2.50	2.25

* 6 Hour Day. ** 7 Hour Day.

Prepared and compiled by:
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NEW BUILDING AT LA AIRPORT

A new, 10,000 sq. ft. reinforced brick, with concrete floors and clear span trusses, building is being built at the Los Angeles International Airport for Aero Supplies Company, manufacturer of machine parts for the aircraft industry.

Designed by S. Charles Lee, Architect, offices of the building will be ultra modern in design; with panel-ray heating, asphalt tile floors, acoustical ceilings, and Philippine mahogany doors.

LARGE SCALE HOUSING PROJECT

The Federal Government, through offices of the U. S. Army, has announced plans for the construction of five hundred family housing units at Fort Ord under terms of the Wherry Bill at an estimated cost of $4,500,000.

Construction will include attached, duplex and single houses containing one, two, and three bedrooms.

ARCHITECT SELECTED FOR GRAMMAR SCHOOL—Jack Buchter, architect of Orinda (California), has been selected to design a new Grammar School at Sheldon, Contra Costa county. Approximate cost of the project is $225,000.

CASCADE TUBERCULOSIS HOSPITAL — The Hospital Central Committee of the counties of Shasta, Siskiyou, Lassen and Trinity recently announced the cost of constructing the 75-bed tuberculosis hospital near Redding in Shasta county would be $696,800. E. Geoffrey Bangs, San Francisco, is the architect.

ILLUMINATION ENGINEERING SOCIETY NAMES HOBBS TO BOARD OF DIRECTORS

Leonard A. Hobbs, vice president and sales manager of Smoot-Holman Company of Inglewood, California, has recently been named to the board of directors of the Illumination Engineering Society.

LEONARD HOBBS

During a recent business trip to New York and other eastern points, Hobbs attended a meeting of the Fleurolier, National Electric Manufacturers Association, and R. L. M. while at Atlantic City.

He also spoke at the luncheon meeting of the I. E. S. in New Orleans, and was guest speaker at the Jackson, Miss., chapter of the I. E. S. on the night the Chapter's charter was received.

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CONSTRUCTION CONTRACTS AWARDED AND MISCELLANEOUS PERSONNEL DATA

TINPLATE COATING PLANT, Oakland, Alameda County; American Co., owner. $450,000. ENGINEER: H. J. Brunnier, San Francisco. 1 story, 110,000 sq ft., structural steel frame, reinforced concrete, asbestos exterior, steel sash, concrete floor. GENERAL CONTRACTOR: Swinerton & Walberg, Oakland.

NEW GRAMMAR SCHOOL, Folsom, Sacramento County; Folsom Elementary School District, owner. $103,068. ARCHITECT: Chas F. Dean, Sacramento. Frame and stucco construction. GENERAL CONTRACTOR: G. B. Hauserman, Fair Oaks.

MACHINE SHOP BUILDING, Oakland, Alameda County; East Bay Municipal Utility District, owner. $101,305. ENGINEER: Carl S. Replogle, Piedmont. 1 story, 110 x 180, concrete block construction. Specification L. S. 499. GENERAL CONTRACTOR: R. C. Lewis Construction Co., Oakland.

CHURCH, Mountain View, Santa Clara County; First Presbyterian Church, owner. $60,000. ARCHITECT: Lawrence W. Gentry, Los Altos. Concrete block and structural steel frame. Clay shingle tile roof, radiant heating. Owner builds and awards separate contracts.

GRAMMAR SCHOOL ADDITION, King City, Monterey County; King City Elementary School District, owner; cafeteria building. $25,213. ARCHITECT: Chas E. Butner, Salinas. Frame and stucco construction. GENERAL CONTRACTOR: Hayes & Williams, King City.

UNION BUILDING REMODEL, San Francisco; Hotel Service Workers Union Local 383, owner. $52,771. ARCHITECT: Hertzka & Knowles, San Francisco. Interior and exterior remodel. GENERAL CONTRACTOR: Jacks & Irvine, San Francisco.

CHURCH REMODEL, San Francisco; Lakeside Presbyterian Church, owner. $50,000. ARCHITECT: Vincent G. Raney, San Francisco. Interior and exterior remodel. GENERAL CONTRACTOR: Arthur Bros., San Mateo.

PING YUEN HOUSING PROJECT, San Francisco. Housing Authority for the City and County of San Francisco, owner. 3 buildings, 234 units, $1,931,343. ARCHITECTS: Daniels & Howard & Ward & Bolles, San Francisco. 3 six story, reinforced concrete building. Total of 4 elevators, wood sash, asphalt tile floors, hot water, central heating plant. GENERAL CONTRACTOR: Theo. G. Meyer & Sons, San Francisco.

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YGNACIO VALLEY SCHOOL ADDITION, Concord, Contra Costa County; Mr. Diablo Unified School District, owner. 3 classrooms kindergarten, offices, toilet rooms, $161,000. ASSOCIATED ARCHITECTS: Anderson & Simonds, Confer & Willis, Reynolds & Chamberlain, John Lyon Reid, Oakland. Frame and stucco construction, 12,000 sq. ft. GENERAL CONTRACTOR: Pacific Co., Oakland.

BUS GARAGE & SHOP BUILDING, Santa Clara, Santa Clara County. Jefferson Union Elementary School District, owner; $25,539. ARCHITECT: Falk & Assocs., San Francisco. 1 story, concrete block, structural steel frame, wood roof. GENERAL CONTRACTOR: N. A. Lamb, Santa Clara.

OFFICE & WAREHOUSE BUILDING, Oakland, Alameda County. Graybar Electric Co., owner; $130,000. ARCHITECT: Lloyd Gartner, San Francisco. 1 story, 37,000 sq. ft., concrete block and frame construction. GENERAL CONTRACTOR: W. C. Tait Co., San Francisco.

CEREBRAL PALSY SCHOOL, San Mateo, San Mateo County. County Superintendent of Schools, owner. 3 classrooms, office and 2 therapy rooms and all purpose room, $108,905. ARCHITECT: Arthur D. Jamssen, Menlo Park. Frame and stucco construction, some structural steel. GENERAL CONTRACTOR: Earl W. Emley, Saratoga.

COUNTY BUILDING, Reedley, Fresno County. County of Fresno, owner. Justice's court, health department, library, etc., $77,-910. ARCHITECT: E. W. Peterson, Fresno. GENERAL CONTRACTOR: Leonard Flood, Kingsburg.

STORE & OFFICE BUILDING, San Francisco. Colonial Insurance Co., owner; $84,-049. ARCHITECT: Ward Thomas, San Francisco. 2 story, 87 x 45, structural steel frame, frame & brick veneer. GENERAL CONTRACTOR: A. L. Verdier, San Francisco.

GRAMMAR SCHOOL ADDITION, Linden, San Joaquin County. Chartville Elementary School district, owner. 3 classrooms and toilet rooms, $39,966. ARCHITECT: Easterly, Ellenwood & Easterly, Watsonville. Reinforced concrete and frame and stucco construction. GENERAL CONTRACTOR: V. A. Nelson, Stockton.

MARKET BUILDING, Stockton, San Joaquin County. Inman's, Inc., owner; $70,918. STRUCTURAL ENGINEER: Ellison & King, San Francisco. 1 story, 88 x 110, reinforced concrete and frame construction. Carmel stone and plate glass front. GENERAL CONTRACTOR:

HIGH SCHOOL ADDITION, Princeton, Colusa County. Princeton Joint Union School District, owner. Agricultural shop building, science building, $51,068. ARCHITECT: Koblik & Fisher, Sacramento. Shop: reinforced steel construction; Science Building: frame and stucco construction. GENERAL CONTRACTOR: A. L. Miller, N. Sacramento.

CAR SAFE BUILDING, San Francisco. Ernest Ingold Co., owner. Auto parts storage, $120,000. ARCHITECT: Albert F. Roller, San Francisco. 3 story, 68 x 120, reinforced concrete construction, 2 ramps. GENERAL CONTRACTOR: Barrett & Hilp, San Francisco.

OFFICE & WAREHOUSE BUILDING, Oakland, Alameda County. Key Distributing Company, owner; $67,535. ARCHITECT: A. R. Hunter, Jr., Berkeley. 1 story and mezzanine, 12,000 sq. ft. concrete block, structural steel or wood roof trusses. GENERAL CONTRACTOR: John F. Tullock, Oakland.

STORE BUILDING, Watsonville, Santa Cruz County. Watsonville Y.M.C.A., owner. 5 stores, $125,000. ARCHITECT: Easterly, Hall & Ellenwood, Watsonville. 1 story, 100 x 180, reinforced concrete and frame construction. GENERAL CONTRACTOR: T. H. Rosenwall, Watsonville.

SHOPPING CENTER, Fresno County. Mayfair Shopping Center, owner. Market and group of stores, $187,338. ARCHITECT: Chas. E. Butner, Salinas. Structural steel frame, concrete block walls, wood roof. GENERAL CONTRACTOR: Harris Construction Co., Fresno.

WASHINGTON ELEMENTARY SCHOOL, Dinuba, Fresno County. Dinuba Elementary School District, owner. 6 classrooms, administration, art, sewing, cooking and library rooms, $220,395. ARCHITECT: Swartz & Hyberg, Fresno. Frame and stucco construction. GENERAL CONTRACTOR: Guy Munson, Dinuba.

STORE & OFFICE BUILDING. San Francisco. Colonial Insurance Company, owner; $84,-049. ARCHITECT: Ward Thomas, San Francisco. 2 story, 87 x 45, structural steel frame, frame and brick veneer. GENERAL CONTRACTOR: A. L. Verdier, San Francisco.

WAREHOUSE, Oakland, Alameda County. B. P. John Furniture Co., owner; $42,000. ENGINEER: H. M. O'Neil Co., Oakland. 1 story concrete construction. GENERAL CONTRACTOR: E. S. McKittrick, Inc., Oakland.

CHURCH, Pinole, Contra Costa County. Roman Catholic Archbishop of S. F., owner. 400 seats, $96,406. ARCHITECT: Martin J. Rist, San Francisco. Reinforced concrete & frame construction, tile floors, steel sash. GENERAL CONTRACTOR: Elmer J. Freethy, El Cerrito.

PARKSIDE BRANCH LIBRARY, San Francisco. City & County of San Francisco owner; $130,000. ARCHITECT: Appleton & Wolfard, San Francisco. Reinforced concrete and frame construction. GENERAL CONTRACTOR: Wm. Horstmeyer Co., San Francisco.

SAFEWAY MARKET BUILDING, Bakersfield, Kern County. Bramwell Construction Co., owner; $200,000. ARCHITECT: Robert N. Eddy, Bakersfield. 1 story. GENERAL CONTRACTOR: Alva Hackney & Son, Bakersfield.

REMODEL SAFEWAY MARKET BUILDING San Francisco. Bramwell Construction Co. owner; $111,370. ENGINEER: Kay Theill San Francisco. Interior and exterior remodel. GENERAL CONTRACTOR: Midstate Construction Co., San Francisco.

SAFEWAY MARKET BUILDING, San Francisco. Bramwell Construction Co., owner, $178,802. ENGINEER: Kay Theill, San Francisco. 1 story, reinforced concrete construction, brick veneer, wood roof. GENERAL CONTRACTOR: Midstate Construction Co. San Francisco.

SAFEWAY MARKET, San Francisco. Bramwell Construction Co., owner; $222,678. ENGINEER: Kay Theill, San Francisco. 1 story reinforced concrete construction, brick veneer, wood roof. GENERAL CONTRACTOR Midstate Construction Co., San Francisco.

CHURCH AUDITORIUM, Oakland, Alameda County. Roman Catholic Archbishop of S. F., owner; St. Theresa Parish, $259,000. ARCHITECT: Wm. E. Schirmer, Oakland. 1 story and basement, reinforced concrete & frame construction. Type 3. GENERAL

CONTRACTOR: Moore & Roberts, San Francisco.

GRAMMAR SCHOOL, Montgomery Creek, Shasta County. Montgomery Creek Union Elementary School District, owner. 4 classrooms, and toilet rooms, $132,782. ARCHITECT: Chas. F. Dean, Sacramento. Frame and stucco construction. GENERAL CONTRACTOR: D. L. Faull, Santa Rosa.

GRAMMAR SCHOOL, Santa Cruz, Santa Cruz County. Bonny Doon Elementary District, owner. 1 classroom and heating plant and toilet room, $34,695. ARCHITECT: Lynn Duckering, Santa Cruz. Frame and some brick veneer, pumping plant, road and site work. GENERAL CONTRACTOR: R. S. Bryant, Los Gatos.

FREMONT ELEMENTARY SCHOOL, San Francisco. City & County of San Francisco, owner. 15 classrooms, kindergartens, administration and toilet rooms, $825,174. ARCHITECT: Hertzka & Knowles, San Francisco. 2 story, reinforced concrete construction. GENERAL CONTRACTOR: Moore & Roberts, San Francisco.

BOYS DORMITORY BUILDING, Benicia, Solano County. Dominican College, owner. 30 rooms, $128,616. ARCHITECT: Leonard F. Starks, Sacramento. 2 story, reinforced concrete and frame construction. GENERAL CONTRACTOR: Harry J. Rilinger, Vallejo.

MUSIC BUILDING, Merced, Merced County. Merced Union High School District, owner; $122,284. ARCHITECT: Frank Wynkoop & Assoc., Fresno. Contains practice, choral, rehearsal and storage rooms. GENERAL CONTRACTOR: Graham & Jensen, Merced.

GRAMMAR SCHOOL ADDITION, Rio Vista, Solano County. Rio Vista Elementary School District, owner. Portion of gym building, comprising shop, heating room, kitchen, cafeteria, music room, corridor roof, cloister and toilet room, $138,723. ARCHITECT: Dragon, Schmidts & Hardman, Berkeley.

NEW WALNUT HEIGHTS GRAMMAR SCHOOL, Walnut Creek, Contra Costa County. Walnut Creek Elementary School District, owner. Classrooms and toilet rooms, $126,170. ARCHITECT: Dragon, Schmidts & Hardman, Berkeley. Precast concrete block and frame construction. GENERAL CONTRACTOR: L. Neilson, Lafayette.

TWO SHOP BUILDINGS, Hanford, Kings County. Hanford Union High School District, owner. 5 shops, $285,792. ARCHITECT: David H. Horn & M. D. Mortland, Fresno. Reinforced concrete construction. GENERAL CONTRACTOR: Oppenheim & King, Fresno.

STORE BUILDING, San Jose, Santa Clara County. The John Bruener Co., owner. 6 stores, $42,000. ARCHITECT: Donnell E. Jaekle, San Jose. 1 story, 136 x 70 frame and stucca, some structural steel, roman brick and plate glass front. GENERAL CONTRACTOR: M. L. Blanchfield, San Jose.

NOVITIATE & PROVINCIAL HOUSE, Los Gatos, Santa Clara County. Sisters of the Holy Name, owner; $650,000. ARCHITECT: H. A. Minton & Wilton Smith, San Francisco. and part 2 story reinforced concrete and frame construction. GENERAL CONTRACTOR: Robt. McCarthy Co., San Francisco.

CHURCH ADDITION, Healdsburg, Sonoma County. Healdsburg Federated Church, owner. Sunday School and social hall, $51,000. ARCHITECT: Crawford & Mann, Mill Valley. Concrete block and frame construction. GENERAL CONTRACTOR: Frank Z. Fowle, Jr., Healdsburg.

SULFUR PROCESSING BUILDING. Berkeley, Alameda County. Pacific Guano Co., owner; $50,000. STRUCTURAL ENGINEER: Henry S. Howard, Oakland. Structural steel frame and corrugated galvestos exterior. GENERAL CONTRACTOR: John F. Tullach, Oakland.

SAFEWAY MARKET BUILDING. Los Gatos, Santa Clara County. Bramwell Construction Co., owner; $130,000. ARCHITECT: Beals, Bidwell & Macky, Oakland. 1 story, 100 x 150 concrete block and frame construction. GENERAL CONTRACTOR: E. S. McKittrick Co., Oakland.

RESIDENCE. Atherton, San Mateo County. ARCHITECT: Leslie I. Nichols, Palo Alto. 11 rooms, 5 baths. 1 story, frame construction, redwood exterior, shake roof, wood rails, $55,000. GENERAL CONTRACTOR: Arthur D. Janssenn, Atherton.

GRAMMAR SCHOOL ADDITION, Dixon, Solano County. Dixon Unified School District, owner. 7 classrooms and toilet roams, $104,089. ARCHITECT: Koblick & Fisher, Sacramento. Frame and stucco construction. GENERAL CONTRACTOR: United Construction Co., Sacramento.

CHURCH & SUNDAY SCHOOL ADDITION, Redwood City, San Mateo County. First Methodist Church, owner; $60,000. ARCHITECT: Vincent G. Raney, San Francisco. Frame and stucco construction. GENERAL CONTRACTOR: Baker Construction Co., Belmont.

BEL AIR GRAMMAR SCHOOL ADDITION, Pittsburg, Contra Costa County. Mt. Diabo Unified School District, owner. 12 classrooms, kindergarten, office and toilet room, $261,120. ASSOCIATE ARCHITECTS: Anderson & Simonds; Confer & Willis; Reynolds & Chamberlain; and John Lyon Reid, Oakland. Frame and stucco construction. GENERAL CONTRACTOR: Wallace D. Harkins, Antioch.

HOSPITAL, Hayward, Alameda County. Dr. J. Levine, owner. 12 beds, $82,900. ARCHITECT: Allan Scott Watts, Hayward. 1 story, brick and frame construction. GENERAL CONTRACTOR: C. A. Gossett & Son, Hayward.

GRAMMAR SCHOOL, Madera, Madera County. Eastin-Arcola Union Elementary School District, owner. 13 classraams, office and toilet room, $329,125. ARCHITECT: Schwartz & Hyberg, Fresno. Frame and stucco construction, concrete floor, composition roofing, radiant heating. GENERAL CONTRACTOR: Harris Construction So., Fresno.

CASCADE TUBERCULOSIS HOSPITAL, Redding, Shasta County. Hospital Central Committee of the Counties of Shasta, Siskiyou, lassen & Trinity, owner. 75 beds, $696,800. ARCHITECT: Geoffrey Bangs, San Francisco. 1 story, reinforced concrete construction. GENERAL CONTRACTOR: Central State Construction Company, San Francisco.

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IN THE NEWS

FACTORY ADDITION

The American Brake Shoe Company have announced their intention of spending some $110,000 for the remodel and enlargement of their manufacturing plant in Oakland.

YACHT CLUB

The St. Frncis Yacht Club, San Francisco, will spend $201,000 for remodeling of the Yacht Club buildings on San Francisco Bay, according to a recent club announcement.

Both the exterior and interior of the building will be remodeled.

LABOR TEMPLE

Harry J. Devine, Sacramento architect, is drafting plans for a new Labor Temple for the Sacramento Labor Temple Association.

The building will be of two story, reinforced concrete and frame construction and will contain about 30,000 sq. ft. Cost of the structure will approximate $300,000.

HOSPITAL ADDITION

The Permanente Foundation Hospital in Oakland has asked the City of Oakland for a zoning permit to construct an addition to the Permanente Hospital.

STATE COLLEGE BUILDINGS

Architects Chas. F. Dean, Herbert E. Goodpastor and Gordon Stafford of Sacramento have been selected to design a group of new buildings for the State College at Sacramento.

The proposed construction will cost approximately $3,000,000 and will comprise classrooms, science, administration, library, cafeteria, and a boiler plant.

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NEW APARTMENTS PENDING

The Congress Construction Company of San Francisco will soon start construction of a group of apartment buildings in Alameda, according to a recent announcement by Glenn O. Richardson of the construction company.

The project will be located south of Central Avenue between 3rd and 4th streets and will comprise 2-story frame and stucco construction buildings which will cost approximately $6,000,000.

The builders have applied for a zoning permit.

COMMUNITY PROJECT

The MacDonald Products Company of San Francisco has announced its intention of building a new shopping center in Walnut Creek at a cost of $2,000,000.

The building will contain 200,000 sq. ft.

Robert Lisles, San Francisco, is the architect and Byron Nishkian of San Francisco, is the structural engineer.

MEMORIAL BUILDING

Mario J. Ciampi, architect of San Francisco, is designing a War Memorial Building for the City of Daly City which will comprise an auditorium and gymnasium, and meeting room.

The building will be of reinforced concrete and steel construction and will cost $200,000.

HOSPITAL BUILDING

Architect Allan Scott Watts of Hayward has recently designed a new hospital building for Dr. J. Levine of Hayward.

Of one-story brick and frame construction the building will contain 12 beds and will cost $80,000.

SAN FRANCISCO HOUSING

The Houing Authority of San Francisco has announced its intention to build a 221-unit Housing Project in Bernal Heights at a cost of $2,371,820.

Wm. G. Merchant, San Francisco, is the architect. Plans call for the construction of twenty-two three-story reinforced concrete buildings.

HOUSING PROJECTS

C. H. McEntyre of Oakland is building 63 Residences in San Lorenzo at a cost of $7,600 each.

The San Lorenzo Homes Company is building 48 Residences in San Lorenzo at a cost of $7,000 each.

The Public Housing Administration, through the Housing Authority and under control of Kern county, is building 31 two unit dwellings at Delano at a cost of $417,-500.

The Housing Authority of San Francisco is planning the construction of 239 housing units in San Francisco at a cost of $2,367,-500.

Williams & Burrows, Burlingame, have started construction of 30 houses in San Bruno at a cost of $8,000 each.

Ashland Homes, Inc., San Leandro, have started construction of 110 new residences in San Lorenzo at a cost of $7,500 each.

Meridan Homes of Danville, are constructing 26 new houses in Danville at a cost of $6,500 each.

Kaiser Community Homes, Santa Clara, are building 23 new residences near Santa Clara at a cost of $7,500 each.

Beckett & Federighi, Oakland, are building thirty new residences near Stockton, at a cost of $5,000 each.

Carl C. Lassen, Hayward, is constructing thirty new residences in the City of Hayward at a cost of $6,500 each.

Randolph Parks of Sacramento is building a group of eighty-six Duplex houses, at a cost of $15,000 each, and sixteen Quadruplex homes at a cost of $25,000 each. All houses are being built near Sacramento.

The Chas. A. Russell Development Company of Vallejo is constructing ninety-two new residences near the City of Vallejo, at a cost of $7,000 each.

DEPARTMENT STORE

Announcement has been made by Sears-Roebuck & Company of Los Angeles, that they will soon start the construction of a new department store building in San Francisco at a cost of $3,000,000.

The new building will be located at Masonic and Geary Blvd.

W. D. Peugh, San Francisco, is the architect.

STATE BUILDING

The Division of Architecture, State of California, plans to build a new office building in Redding (California) for the State Department of Employment at a cost of $50,000.

Herbert E. Goodpastor, Sacramento, is the architect.

HOUSING PROJECT PROPOSED

The Housing Authority for the County of Stanislaus has announced plans for the construction of three low income housing projects. One of the projects comprising eighteen units will be constructed in Ceres, another of thirty units will be erected in Turlock, and the third project of twenty units will be located in Oakdale.

Donald Powers Smith of San Francisco, has been named the architect for the three jobs.

HOSPITAL BONDS VOTED

Voters of the Sierra View Hospital District, Porterville, California, recently approved a $650,000 bond issue for the purpose of constructing a new 40-bed Hospital.

D. D. Stone & L. Mulloy, architects of San Francisco, have been selected as the architects on the project.

FEDERAL FUNDS GRANTED

The State of California and the Federal government have approved $700,000 for the construciton of an addition to the Community Service Hospital at San Jose.

Of 4-story, reinforced concrete and structural steel construction the building will be designed by the architectural firm of D. D. Stone and Lou Mulloy of San Francisco.

NEW CHURCH

The First Presbyterian Church of Mountain View, Santa Clara county, will soon start construction of a new church building at a cost of $60,000. The building will be of concrete block, structural steel, and frame construction.

Lawrence W. Gentry, Los Altos, is the architect.

NEW OFFICE BUILDING

The Home Insurance Company of New York has applied for a building permit for the construction of a 5-story, with basement, office building at the corner of Kearny and California streets, San Francisco.

The building will be of reinforced concrete and structural steel, and will provide

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for the addition of an additional six stories at a later date.

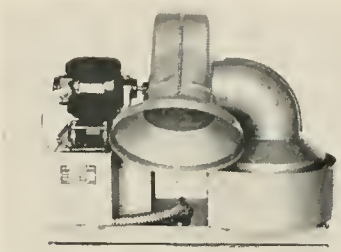
Meyer & Evers, San Francisco, are the architects in conjunction with T. H. Englehardt, architect of New York. J. E. Hayes has been selected as the Structural Engineer, and Atkins & Maggio, San Francisco, have been named Mechanical Engineers for the project.

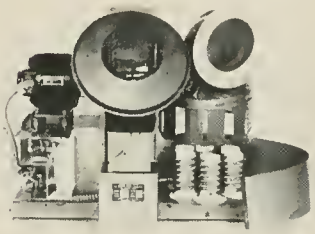
SAN FRANCISCO RESIDENCES

Building permits have been issued for the construction of 38 new residences in San Francisco at an estimated cost of $247,000.

FORCED AIR ELECTRIC HEATER

A forced air, heavy duty electric heater has been announced by the Kilbury Mfg. Co. of Lawndale, California, which is about 2 feet square, weighs only 70 lbs., and will fit anywhere, closet, attic, or floor.





Operates on 220 volts and uses 13,100 watts in developing the equivalent of 45,000 b.t.u.

Convenient, clean, safe. Ideal for basement rooms, multiple story buildings, supplemental heating, and entrance heating.

PHYSICAL EDUCATION PLANT

Physical education facilities at Fresno State College are being enlarged at a cost of $1,195,664.

Construction consists of a new gymnasium, demonstration school, and industrial arts buildings. The three buildings will total 88,000 sq. ft. and will be of reinforced concrete and structural steel construction.

ARCHITECT SELECTED

The City and County of San Francisco has appointed architects Meyer & Evers of San Francisco to draft plans for the construction of the new Burnett Elementary School.

It is estimated cost of construction will run about $825,000.

STATE FUNDS ALLOTTED

State and Federal funds in the amount of $190,000 have been allotted for the construction of a 12-bed Hospital Building at Truckee (California), consisting of a 1-story reinforced concrete structure.

Geo. C. Sellon, Sacramento, is the Architect.

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• ARCHITECT AND ENGINEER

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Book Reviews

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COVER PICTURE:

This Foster, Oregon, grade school by Architects Freeman, Hayslip & Tufts, is a splendid example of the single-unit school buildings which have been designed to meet the acute problem of educational facilities on the West Coast.

See detailed story on page 14.

ARCHITECT & ENGINEER is indexed regularly by ENGINEERING INDEX, INC.

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. EDITORIAL NOTES .

FARMER LOGIC

The farmer who raises a crop of apples by reason of many long hours of hard labor knows that one worm in one apple can ruin the entire crop.

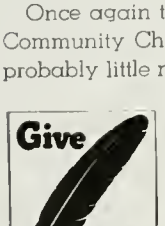
Professional men and women are akin to the farmer's crop of apples . . . one insincere representative of a professional group can stimulate a negative public attitude towards the entire profession.

Cooperative industry organizations and associations should see to it that certain basic principles of honesty and decent conduct should be observed by everyone represented.

* * *

OCTOBER IS TRADITIONALLY THE RED FEATHER MONTH

Once again the campaign to raise funds for the Community Chest approaches and while there is probably little need to "sell" the project to the public, it is well to be reminded that the campaign for funds will again take place.



"The Red Feather Services of this country are important architects of our future—helping to build better, finer, more attractive communities for the good of everybody.

"It seems to me that support of the Community Chest is an act of good citizenship.

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—Henry Ford II.

Make it a point to see that your contribution is made to this worthwhile effort.

* * *

IT'S NOT "ALL QUIET" ON THE EASTERN FRONT

A recent news report from West Hartford, Connecticut, indicates that, architecturally speaking at least, "All is not quiet" with the town's residents and it may take a landing of the U. S. Marines with or without their much presidentially touted "publicity machine" to get the situation well in hand.

It seems that a couple of years ago one Frank Lloyd Wright was commissioned to design a new community theater for West Hartford and since submission of his ideas in form recognized by the layman the townspeople have been squabbling among themselves as to Wright's approach to the building of a theater which called for a hexagonal, unornamented theater of lightweight metal — to eliminate as the architect explained "the peep-show character" of conventional theater productions.

The difference of comunity opinion reached a climax recently when opponents to the Wright theory obtained a temporary injunction to prevent construction of the theater.

Despite Wright's personal appearance, the injunction withstood the withering fire of the aging architect, who contended "The East is finished. Its best material went West. In the East the old ladies sit around knitting and waiting for the young to grow up and when they do won't let them do anything."

With the final observation that the situation was a "disgrace," it is reported the 81-year-old Wright jammed his "pork-pie" hat on his head and took-off for a more sympathetic community.

* * *

NO REASON FOR PANIC IN CONSTRUCTION INDUSTRY

According to reports from the Mid-Year meeting of the Governing and Advisory Boards of the Associated General Contractors of America, recently held in Chattanooga, Tennessee, the general contracting industry has the capacity to carry out all defense construction with a maximum of speed and economy.

In carrying out the largest peacetime construction program in history, the industry also has its forces mobilized and available to carry on the program for immediate defense work.

In order that defense and essential civilian construction may be carried out most efficiently, The Associated General Contractors of America pledged its members to a program of fast and efficient completion of pending works and those which may develop.

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JOINT INFORMATION COMMITTEE

AMERICAN INSTITUTE OF ARCHITECTS and THE PRODUCERS COUNCIL, INC.

SPECIFICATIONS GET CONSIDERATION AT RECENT ARCHITECTS CONVENTION

Among the most recent discussions on the important subject of SPECIFICATIONS, which matter involves the architect, engineer, builder, contractor and construction materials manufacturer, was the panel discussion at the California Council of Architects annual convention at Yosemite the latter part of September.

DON W. LYON
Moderator
District Manager, Libbey-Owens-Ford Glass Company.

Under the title "What's Wrong With Architects' Specifications?" the panel was devoted to a general discussion from the standpoint of the manufacturer, the contractor, sub-contractor, and the architect.

With Don W. Lyon, District Manager, Libbey-Owens-Ford Glass Company, acting as Moderator, the Manufacturers' Viewpoint was outlined by Wm. C. Theileman, Pioneer Division, The Flintkote Company.

Theileman declared "The objective of an Architect is to design and build buildings—on paper. The working drawings and specifications are a guide for contractor, sub-contractor, material manufacturers, scores of workmen and the building inspector. The drawings, therefore, delineate, and the Specifications should describe." Theileman stressed the point that specifications should be "accurate" and "complete" and should be selected after thorough consideration of materials, their grades and properties. To assist the Architect in determining proper materials, there is a wealth of information available which is the result of extensive and frequently very expensive research laboratories. Architects were urged to avail themselves of these facts by contact with any member of the Producers Council. Many manufacturers make a point to see that expert workmen are available to handle and install their particular products and as in the case of Theileman's firm they take a material interest in contractors who qualify themselves for installation of their products.

The viewpoint of the General Contractor was given by Wm. C. Tait, General Contractor, who pointed out that while the A.I.A. Specifications and Conditions are uniform, no two architects write the same specifications. Tait believes there should be a system for training employees and the adoption of a Master Pattern which would indicate the work to be done by members of the various craftsmen in the construction industry and thus eliminate overlapping. Tait also pointed out that the rules and regulations of the craftsmen's labor organizations govern to some extent the work that may or may not be done by any specific group of workmen. Frequently the wrong work is specific in the first instance and causes the general contractor needless effort to properly segregate.

Angelo J. Daneri of Smith & Daneri Plastering Contractors discussed the viewpoint of the sub-contractor and pointed out that "apparently the gripes are uniform among the sub-contractors." "There are architects whose specifications are too general — basically the architect does not study the specifications and the plan. They are not familiar with the workings of the trades which are to do the work, so should not make an effort to tell the workman how he is to perform the work." Daneri feels that "the scope of specifications should include all essential basic needs" but that sometimes the specifications set up conditions under which it becomes necessary for the workmen to perform duties that add to the total cost of the building. Architects should use the services of the contractor and trades in determining "what, and how to do it" and thus greatly improve "specifications."

The Architects Defense was covered by Architect Vincent Rainey, A.I.A., who expressed the belief that the Panel discussions had given the building industry an excellent opportunity to clarify a "lot of conditions that can be altered to the

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NOTE: This news space is being contributed by ARCHITECT & ENGINEER Magazine to the JOINT INFORMATION COMMITTEE representing the Northern California Chapter of The American Institute of Architects and the Northern California Chapter of the Producer's Council, Inc., and is available to this Committee for the purpose of bringing to the attention of leaders within the Construction Industry various phases of the Architectural profession and building materials industry procedures for general consideration and comment. Your "ideas" and any suggestions for the better pooling of thoughts along these lines should be sent to "Joint Information Committee, c/o The Architect & Engineer, 68 Post Street, San Francisco," where they will be immediately forwarded to the proper committee members.

NEWS AND COMMENT ON ART

SAN FRANCISCO MUSEUM OF ART

The San Francisco Museum of Art, War Memorial Building, Civic Center, San Francisco has announced the following exhibitions and events for the month of October:

EXHIBITIONS. The Bay Region Rental Gallery of Paintings and Sculpture; Paintings by Alfred Maurer; Telesis—The Next Million People; and New Works by Ruth Armer, Leah Rinne Hamilton and James McCray.

EVENTS will include a group of Sunday Afternoon Lecture Discussions featuring Barbara Fitzwilliams, Assistant Curator for Registration and Extension Service, and Anneliese Hoyer, Museum Librarian. Adventures in Drawing and Painting will offer studio meetings under the direction of John Humphrey on Friday evenings, 7:30 to 9:30. Carlos Andreson of the Museum Staff also offers a course in Painting on Friday evening at the same time. The Fun With Art series features Jean Varda, John Rechab Baxter, Alfred Frankenstein, and Sibyl Moholy-Nagy on Wednesday evenings at 8 o'clock.

Know Your World Film Series are presented each Saturday and Sunday afternoon at 2:30, and the first of four programs in the Dance Film series will be shown on Tuesday evenings at 7:30 and 8:45. Children's Saturday morning art classes are held under direction of Marie Sandow of the Museum staff for children 6 to 14 years, and the popular Docent's Gallery Tours are conducted each Tuesday afternoon at 2:30 and each Sunday afternoon at 3:30.

MILLS COLLEGE ART GALLERY

The Mills College Art Gallery, Oakland, has announced the following exhibitions for the month of October, according to Sidney M. Kaplan, director:

The Folk Art of Japan, a collection of objects in daily use, assembled by Mrs. Elizabeth Willis and Mr. Soetsu Yanagi; Otsu-e, a group of folk paintings from the village of Otsu, Japan. Loaned by the Seattle Art Museum; and Kyoto, a photographic interpretation of this city.

PORTLAND ART MUSEUM

Thomas C. Colt, Jr., Director of the Portland Art Museum, West Park and Madison, has announced the following exhibitions for the month of October:

An Exhibition of Seventeenth and Eighteenth Century English Silver; The annual exhibit of Oregon Advertising Art for 1950; Water Colors by Eugene Bennett; and Travel Posters featuring Austrian Tyrol.

CITY OF PARIS ART GALLERY

The Rotunda Art Gallery at the City of Paris, San Francisco, will feature during the month of October, a gala exhibit of Centennial Art. The work comprises the talent of some forty-five artists and represents paintings and sculpture commemorating the 100th year of the City of San Francisco and the City of Paris.

The Art in Action Shop will offer Portrait Sketches on Mondays and Thursdays, and an exhibition of hand weaving on Tuesdays.

ART INSTITUTE OF CHICAGO

John G. Replinger, graduate of the School of Architecture of the University of Illinois, has been appointed Executive Associate in charge of a program to Microfilm working drawings and other pertinent material of the architectural profession in Chicago.

Bulky documents which rapidly disappear and yet have a great historic value are easily preserved in microfilm form and can thus be made available to architectural and art students of the future.

The unique developments in the "Chicago school" of architecture which is best known from its leaders, William Le Baron Jenney, Louis Sullivan, Daniel H. Burnham, John W. Root, and Frank Lloyd Wright, and includes the iron skeleton structural system and the first real skyscrapers can be preserved even though the numerous original buildings are vanishing.

It is proposed that architectural archives be established at the Burnham Library of Architecture of the Art Institute of Chicago.

LOS ANGELES OUTDOOR ART SHOWS SUCCESS

As a part of the Sixth Annual All-City Art Show sponsored by the Department of Municipal Art, outdoor shows were held October 13-15 in ten different Los Angeles city parks.

Exhibits of painting and sculpture, including continuous programs of sketch classes for adults and children, art demonstrations by prominent Los Angeles artists, talks by artists and critics, puppet shows, strolling musicians, folk dancing and architectural drawings, attracted a large number of people.

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Colors Are All Important in the Building Industry

COLORS IMPROVE HEALTH AND INCREASE PRODUCTION

By DR. W. SCHWEISHEIMER

Today, still more than in former times, colors are decisive in the construction of buildings, hospitals and factories. The color in which a wall or object of furniture is painted, used to be chosen for its esthetic effects. But the right colors and color combinations in our homes, offices, plants and travel accommodations are exceedingly important both for health and efficiency.

The psychological needs of the occupants must be considered. Light colors have a stimulating and cheering influence on most people—producing very much the same effects as would friendly words of encouragement. Dark colors are not so stimulating. Few people are actually aware of those psychological influence; all they know is that they feel attracted by a certain building or a particular room in preference to another.

Color in Education

This starts already in the nursery. Most young children prefer red; it is their favorite color. They prefer a red chair, a red toy. In later years, however, colors which have a soothing influence are preferred such as blue and green.

Recently we were told of an unusual school in Sydney, Australia. Putting color into the lives of children is the aim of Mr. and Mrs. H. E. Townsend, the founders of the school. They are convinced that color plays a very important part in education, and their co-educational school considers the dif-

(See Opposite Page)

Architectural Trends in the Field of Electricity

ELECTRICAL LIVING

By JOHN HANCOCK CALLENDER
Architectural Consultant
Southwest Research Institute, San Antonio, Texas

The basementless house has been established as one of today's definite architectural trends and developments in the field of electricity have played a large part in making such a home practical, according to Southwest Research Institute's Revere Quality House Division.

Development of fully automatic heat combined with heating equipment that could be located on the first floor presaged the downfall of the basement. These two developments led quite logically to radiantly-heated floors—often the only condition under which the home buyer was willing to accept a "house without a cellar." Next, mass production of automatic washing and drying machines brought the laundry upstairs and removed another argument for basements.

The result of a recent study by the Southwest Research Institute, points out that the whole pattern of home design has been changed by electricity's progress. When rural electrification lines finally reach an isolated farm, the resulting change in the living and working conditions of the farm family is sudden and spectacular. However, for most of us, there has been no such event to dramatize electricity's importance to us. This is because continuous expansion in home use of electricity has been gradual.

Another effect of electricity on home design has been the opening up of kitchens to the dining and living space—a highly desirable feature in this era of the servantless house. Formerly impractical

(See Opposite Page)

COLORS IMPROVE HEALTH

(From Opposite Page)

ferent color-tastes of its students. The youngsters work at colored desks in rooms with colored walls, they use colored table napkins. Boarders sleep in beds with brightly colored covers, and for daily rest periods the young children are covered with sheets of their favorite colors. All lessons, in every grade, stress color values.

Pupils are encouraged to choose their own colors for clothing. The founders of that color-minded school maintain that the choice of certain shades indicates characteristics of the child's nature and upbringing.

Colors in Hospitals and Sickrooms

Blue color, as a rule, has good effects on neurotics and neurasthenics. An insane asylum in Illinois used red to perk up cases of melancholia. People with shattered nerves have found comfort and release in a room bizarrely decorated with gaudy checks and stripes of color. But later, at a period when too many outside impressions excite them, they prefer, on the average, instinctively those colors which have a more soothing influence such as blue and green. In rating colors according to their popularity, it seems that brown and black rate last.

In France the walls of many hospitals are painted a medium blue, and this is supposed to shy away flies that do not like blue rooms. In other countries, for the same reason, abattoirs and factories have bright blue walls. In the West Indies kitchens are said to be painted blue in order to prevent the kitchen beting attractive to flies.

Operating rooms generally are painted in white. Ceilings and walls are white, so is the furniture, and the gowns and towels for doctors, nurses and patients are white. Some surgeons, however, prefer bluish-grey or bluish-green colors on tiles or walls, to overcome the glare of bright walls which might disturb the vision of the operating surgeon. But white is still considered the best guarantee for cleanliness and the best way of providing good illumination as well, and therefore is the preferred color of surgical medicine.

On walls, frequently repeated ornaments and designs should be avoided, especially in bedrooms and sickrooms. Lying in bed, the patient involuntarily fixes his attention to the wall. Fever-racked patients have the urge to count these patterns; they get nervous and exhausted from such futile activity. In the twilight of dusk or dawn they imagine all kinds of caricatures and monsters lurking in those innocent ornaments which produces confusion and nervous strain. There is the story that in Spanish jails such bizarre wall orna-

(See Page 43)

ELECTRICAL LIVING

(From Opposite Page)

because of cooking odors and the unsightliness of dirty dishes in the sink, this open planning has been made possible by the development of the kitchen exhaust fan, the electric dishwasher, and the electric garbage disposal unit. The kitchen is now one of the most attractive parts of the house.

The development of the automatic refrigerator brought about some changes in kitchen and house design. That appliance moved into the kitchen from the back porch or service pantry where the icebox generally had been located. This was the first step in the development of the modern kitchen with its efficient work-saving layout. The old back porch, no longer needed, promptly disappeared.

It is only when we look back 20 or 30 years that we are impressed by the long way we have come. Many new appliances have come onto the market within that period, and many older appliances formerly known as luxuries have now come into general use. Today's medium priced house may easily have 40 or more devices, in addition to the lighting, which are electrically operated.

It is likely that further changes in house planning will be brought about by new uses of electricity. When year around air conditioning comes into general use in moderately-priced houses, it will probably result in marked changes in the design of the house. Such a development might even reverse the trend toward outdoor living which is so pronounced in today's best designed houses. In many areas of the country availability of inexpensive natural gas for air conditioning and refrigerating may speed this trend.

Along with year-around air conditioning may come reverse-cycle refrigeration for winter heating. The "heat pump," as it is called, is really an air conditioning system run in reverse, using the heat and discarding the cold. Heat may be extracted from the earth or well-water or from the air.

The heat pump and radiant panel heating which has embedded electric wires in the concrete floors or in the plaster walls or ceilings, are most practical for use in sections of the country with low electricity rates. There are even electrical radiant ceiling panels on the market, prefabricated and ready to install. Developments of this type eliminate the heating plant entirely.

Electrical developments now only in the design stage or not even on the designer's drawing boards will undoubtedly affect home design in the future —perhaps even more than they have in the past.

SC Photos

MAIN ENTRANCE—Founders Hall

University of Southern California

FOUNDERS HALL

LOS ANGELES

MARSH, SMITH & POWELL, Architects
J. A. McNEIL CO., Inc., General Contractors

Latest unit to be opened in the general overall building expansion program of the University of Southern California, Los Angeles, is the $1,000,000.00 Founders Hall. The four story classroom and office building is of poured reinforced concrete throughout and carries an overall brick veneer on all exterior walls embellished with cast doorways and other ornamental concrete details set as plaques highlighting the veneer.

Hailed as one of the most beautiful as well as functional academic structures in the nation, the new building houses 2700 students and 112 faculty members of the University's College of Letters, Arts and Sciences. Plans and architectural characteristics were drawn by C. Raimond Johnson, architect for the University, and executed by the architectural firm of Marsh, Smith & Powell, Los Angeles.

J. A. McNeil Co., Inc., Los Angeles, were general contractors at a figure of $893,560, with furnishings and fixtures raising the total cost of the project to the million-dollar mark.

The first two floors are devoted to 26 classrooms and six seminar rooms, arranged for easy access. Classrooms seat from 25 to 100 students depending on room size. The building functions for both day and night classes.

In a distinct separation not generally found in such institutional structures, the third floor is used for mainly departmental offices and research laboratories. Faculty offices and conference rooms, often found sandwiched in amid classrooms, are segregated to the fourth or top floor. An elevator serves all floors, but is in use principally for the third and fourth floors, the lower two being amply served by wide, multi-landing stairways. At the north end of each of the first three floors are large lecture halls, each of the three halls seating 180 persons.

The new structure also boasts a two-story wing which contains two assembly halls, each of which will accommodate 360 persons. These halls have stages, fully equipped; motion picture projection facilities; disappearing curtains and blackboards.

SOUTH ENTRANCE — Architectural sculpture of "Prometheus" by Prof. Merrel Goge executed in cast concrete.

Most of the classrooms as well are equipped for audio-visual instruction.

First contemplated as the Letters, Arts and Sciences building, the College of which it houses, the building was revised in plan to replace Old College, an original university building which had stood on the site for 64 years. With this expansion of plans, traditional mementos of the razed Old College building were preserved and incorporated in the new structure, name of which now was changed to Founders Hall. Thus, a feature of the South facade of the new building are wall insets of a collection of marker-stones, placed in Old College by graduating classes. Also a heroic bas-relief concrete casting of the full figure of "Prometheus," sculptured by Professor Merrel Gage, was set on this facade.

Nearly a score of brick tapestry motifs are worked out in the exterior veneer from six basic patterns, employing but two types of brick, Norman and common red. Additional variation and embellishment was provided through the use of 3 ft. square insets against the veneer of cast concrete in three basic designs: (a) The Trojan head; (b) a Maltese cross, and (c) a Star of David. Also to provide further decoration, certain spandrels carry double running bonds of the Norman red brick, with a two-inch spacing of mortar permitted between the butt ends of the bricks in each double course. This two-inch wide, two-brick high spacing of mortar, brought flush with the brick face was then treated while wet with a geometric stencil design, applied by a specially-fabricated "branding" iron.

Details of entrance and interior fayer are emphasized by the illumination at night.

Another feature of the exterior treatment of the structure is a set of four open-work grilles, each approximately 8 ft. high by 16 ft. long, one to each floor. Three of these open work grilles are executed in Norman red brick. The fourth or upper grille is worked out in 7½" high cuts of 8" diameter sewer pipe of heavy red clay.

All grilles are set on a series of 4" wide angle iron shelves, the shelves themselves supported by vertical 1" wide reinforcing steel rods, set at the back or inside of the grille. Mortar beds were laid directly on the horizontal 4" wide angle-iron shelves, which occur every two to six brick courses, depending on the pattern involved. Thus an entirely rigid grille structure was provided, despite the open-work and apparent lack of support.

The 7½" high cuts of sewer pipe were laid up on shelves in the same manner. Standard mortar was used and the cuts were set on 7½" centers, spaced at 4" apart. A one-half inch slot was cut on either side of the base of the sewer pipe cuts at mid-points on the perimeters. These slots were engaged to lock over the angle of the iron when the mortar bed had been prepared. One angle-iron shelf was hung for each course of the sewer pipe cuts. The template to make the slots was fashioned on the job, with a brick saw making the cuts.

At each floor, poured concrete courses or earthquake bands, measuring 14" in width, extend through to the surface of the veneered brick. Cast concrete bands, measuring either 9 ins., 6 ins. or 4 ins., were also added across ends and rear facade of the building to provide relief, denote the varying-patterned spandrels and add to the illusion of horizontal expanse.

Main entrance of the building rises for two stories in a three-foot deep reveal. Topping the reveal is a 14" course of poured concrete. Side panels of the reveal are simply a continuation of the brick-veneered exterior spandrels and decorative bands, carried through the entrance to provide the interior wall decor of the building's main floor corridor. The entrance itself is of 8 ft. x 8 ft. panels of plate

Auditorium combines modern stage and seating

glass set in surrounds of stainless steel. Below these are three sets of 8 ft. high glass doors opening on a self-operating principle.

The brick veneer of the exterior and of the main floor corridors is carried out as a finish decor for the poured concrete stairways and wells and for the paneling of the exterior of the elevator shaft. The brick veneer decor is also partially employed as a finish treatment of the main corridors of the second, third and fourth floors, where pastel-pointed plaster also is used in wall finishing.

All auditorium and classroom doorways throughout the building are of poured concrete, offset from the partition walls approximately 6 inches and providing reveals with inside panels as deep as 6 ft.

Corridors of the main floor, together with the floors above and the stairways leading up to them all have floor surfaces of 12" x 12" red quarry tile, set with 1-inch mortar joints for pattern effect. Risers of the steps are 12" x 6" quarry tile, with treads of 12" x 6" bullnosed tile.

All ceilings throughout the buildings, in classrooms, auditoriums, offices and corridors, are of suspended-type construction, finished in tinted acoustical plaster. In the entrance corridor of the main floor, the ceiling ramps down on a three-per cent grade from the two-story high entrance at the front to the one-story high ceiling of the elevator area at the extreme end of the corridor. All corridors have a "ribbon" of fluorescent lighting running their entire length. The "ribbon" is a groundglass screened well, with sheet metal sides, carrying mixed fluorescent day-lighting tubes within. The well is approximately 12" wide x 4" deep. The whole lighting well system in the corridors is suspended on 16" long steel rods, spaced at approximately 6 ft. intervals.

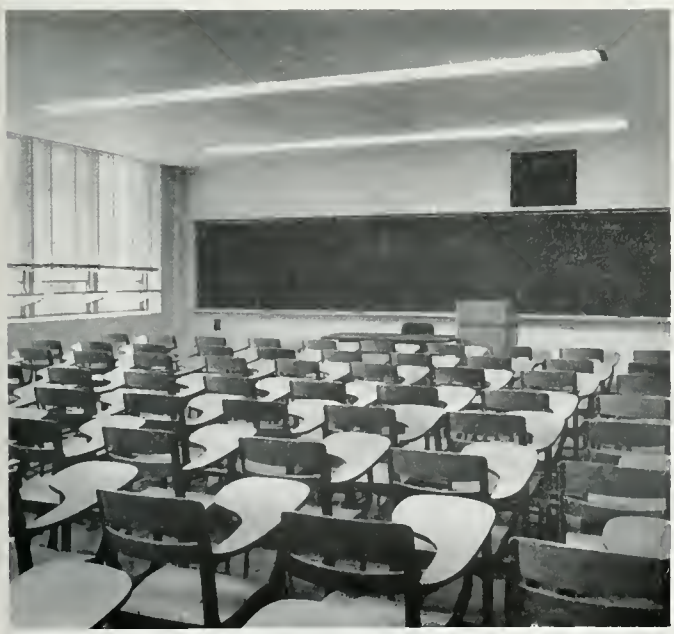
Lighting of auditoriums and classrooms also is of fluorescent type, mixed tubes being used to more closely simulate daylighting. Here the light well is inset directly into the suspended acoustical tile or acoustical plaster finished ceiling surfaces. The auditoriums also carry spotlight wells in the ceiling for use in stage strip-lighting. An angled well located forward over stage center just in front of the proscenium arch also is inset in the ceiling to house the amplifier of the public address system.

Heating, ventilating and air-conditioning is provided for the entire building from a central system located in the all concrete fireproof basement. Ducting of insulated and galvanized metal carries properly conditioned air to grilled openings in classrooms, offices and auditoriums, located at strategic points in walls and ceilings. In the auditoriums, 12" x 12" grilled vent openings are also provided in the ceilings.

Fenestration of the class rooms and offices is marked by steel casements, some with awning type openings, as in the classroom illustrated, others, notably in the offices, with the standard vertical casement openings. All openings swing inward, allowing for outside screening or grilling of all casements.

All floors throughout the building are of concrete slab construction with asphalt tile used as floor finishes in auditoriums, classrooms and offices. The asphalt tile is of red and brown mottled color to harmonize with the red quary tile finishes of the corridors.

(See Page 27)



TYPICAL CLASSROOM

Architects:

Freeman, Hayslip and Tufts

Prize-winning one-room school at O'Brien, Oregon

SINGLE STORY SCHOOL BUILDING HAS SOLVED A VEXING PROBLEM

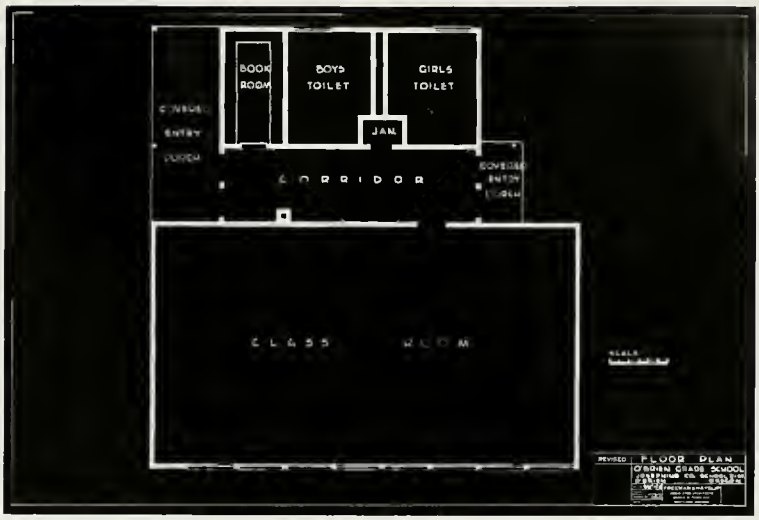
By ARTHUR W. PRIAULX

When the greatest mass migration in the history of our country, started westward in the early 1940's, one of the most pressing of all problems confronting city and suburban planners and officials, was how to provide adequate school facilities to care for the needs of the burgeoning population.

Western architects set to work. They had one big problem—to design the most school for the least money. New school construction needs were astronomical. The population had increased by more than one half in ten years in the three Pacific Coast states. War-time births had skyrocketed, and strangely have remained at a higher than normal level since the war. All this meant a new and larger crop of school children.

Up and down the Pacific slope, architects arrived at an independent but common conclusion: A single-story school building, combining vitally needed lower construction costs, ease of expansion for growing communities, a high safety factor because of ease of egress, extreme flexibility which made it adaptable to any size or shape plot, and best of all, because it fit readily into the architectural plans of neighborhoods, was the answer to the West's school needs.

Thousands of these one-story, modern miracles of educational efficiency, which combine all the



This prize one-room school at O'Brien, Oregon, is a classic example of what has been done by architects Freeman, Hayslip, and Tufts in creating a compact teaching unit—the coordinated classroom.

BELOW is shown interior detail and modern furnishings.

latest improvements in research and technology, have been built throughout the West in the past decade. The trend, first exploited here in the Pacific Coast states, has now spread nation-wide, as savings and advantages of the single-story structure have become known.

School designing today is big business with architects. Some, like William Arild Johnson, of Everett, Washington, specialize exclusively in school work. Others like, Freeman, Hayslip and Tufts, Portland; Frank Wyncoop, Bakersfield; Gordon Stafford, Sacramento; Wolff & Phillips, Portland and Kump and Falk of San Francisco, devote much of their time to school design.

California alone has recently voted a $250,000,000 bond issue for state school construction.

Oregon and Washington and the mountain states, have school building programs proportionately as large.

"The problem lacing school designers today," said Sydney B. Hayslip, whose firm of Freeman, Hayslip and Tufts, have built several hundreds of single-story schools throughout the Northwest in recent years, "is to plan a school building within the economic means of the school district, which embodies all of the modern improvements, and yet one which can be expanded, enlarged and added to as the community demands more rooms."

Horizontality in school designing, keeping the structures snug to the ground and eliminating costly high rooms of the past, fits in with the general trend in the country for decentralization, as contrasted to the heavy, multi-storied schools of the past. It fits, too, into the westerner's desire for living in the open, and many of these schools have maximum window space to give students the feeling of being outdoors.

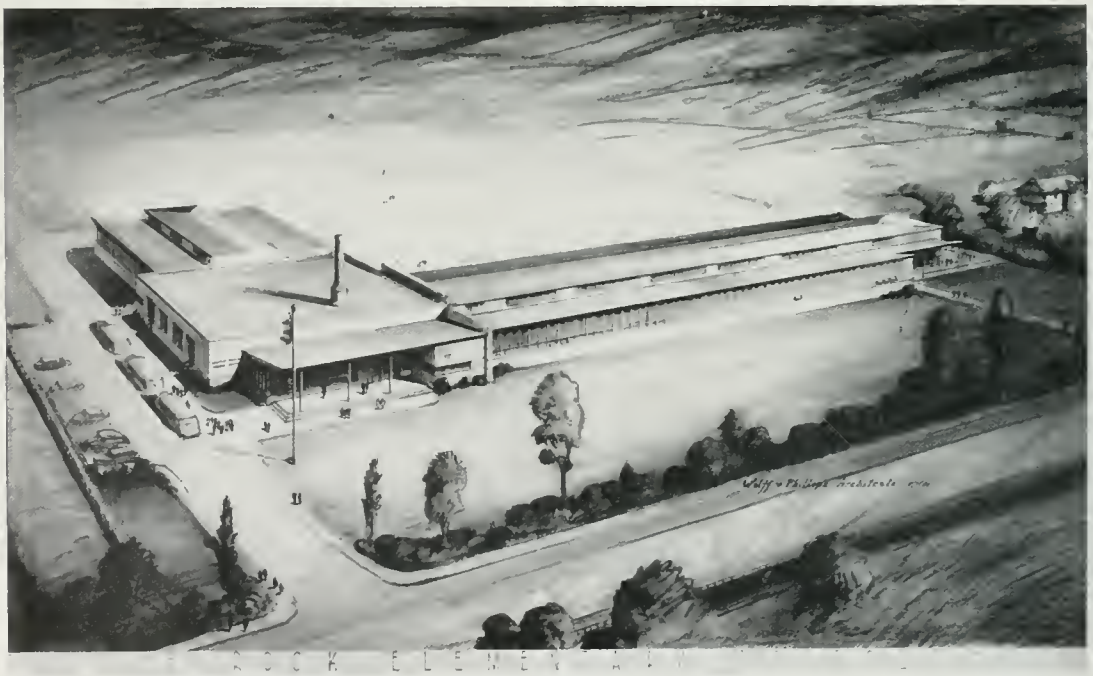
The theme of out-door living is pointed up in the campus plan type of larger single-story schools, where a number of smaller buildings are connected by covered or open passage ways.

"There are no advantages in the multi-storieed school which would encourage us to go back to the older designs," Hayslip stated. "There are excessive costs for fire-proof corridors, in lost space for stairwells, in heavier joists for upper floors and for heavier walls."

Another Portland architect, who has designed some of the Northwest's finest single-story schools, Truman Phillips, of Wolff & Phillips, is equally as ardent a booster for the newer trend in schools.

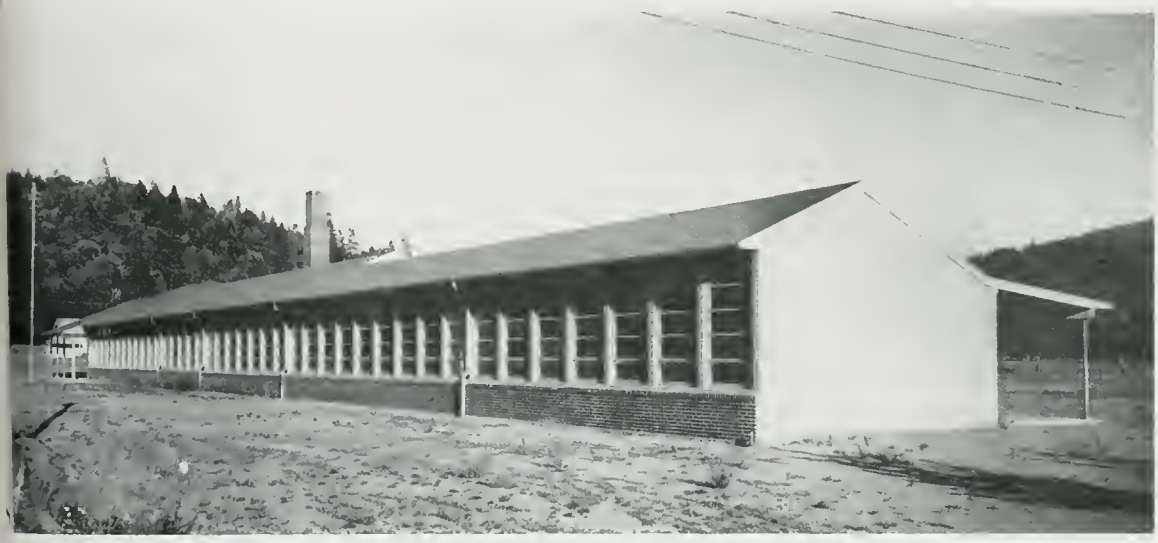
"We like what we have been able to create in student and teacher comfort," Phillips pointed out. "By full use of exposed walls in windows and the adoption of clerestory lighting in room interiors, we have greatly helped with student vision which has such a marked effect on student efficiency. By careful treatment of color in room decoration and design, we have come close to duplicating home atmosphere in the classroom."

Artists sketch of new Castle Rock, Washington Grade School, designed by Woltf & Phillips, architects. Gives an idea of the limitless possibilities afforded the architect in developing attractive schools with eye-appeal in the single story mode. *Photo-Art Commercial Studios Photo*



ABOVE: Typical of the Northwest's single-story schools is the Murphy, Oregon grade school designed by architects Freemon, Hayslip and Tufts. Note the sixteen foot wide play porch which affords pupils shelter during rainy months.

BELOW: Another attractive view of the Murphy grammar school illustrates the complete simplicity of the exterior design.



Phillips said room noises have been reduced by using accoustical tile ceilings and lower room heights. Individual room control of heating, with full utilization of modern heating techniques, has added to creature comfort. The feeling of warmth and simulation of home conditions has been heightened by widespread use of wood paneling by many architects.

Among the many advantages of the single-story frame school building, Gordon Stafford, Sacramento, points out first the matter of economy in original construction costs. Savings in wall cost in the wood-frame schools amount to as much as one half below the cost of heavier masonry. Of particular interest to California designers is Stafford's observation that, "it is resilient and therefore designs well structurally under the earthquake proofing required in this state."

"It is standard practice in this office," Stafford stated, "to design plans based on ultimate population needs ten years in the future, and again, wood is excellent as framing for later work. We have developed a combination of brick veneer and wood siding for exteriors which helps reduce the institutional appearance of schools. We also use a considerable amount of wood and plywood for interior walls, particularly in corridors and classrooms as protection against the hard usage of a group of young people."

Tests conducted throughout the western states by school authorities reveal that single-story schools are less tiring on the teachers, tend for greater efficiency of students and teachers, and students are far more attentive in the more pleasant surroundings.

The trend also is toward the co-ordinated school room, or the one-package teaching unit. In these newer schools, designers have made extensive use of cabinets, built-ins and storage facilities complete for each teaching unit. In the lower grade rooms, some architects even provide for the installation of toilets in each room. These co-ordinated classrooms, as Sydney B. Hayslip points out, have been pretty well standardized and simplified, by attention to such features as lighting, finish, color, function, equipment and arrangement.

One of the outstanding features of these new, single-story schools, is that size does not limit

This classroom in the Murphy grade school gives an illustration of the light, airy, compact and cheerful results which the architects have developed in these new school rooms.

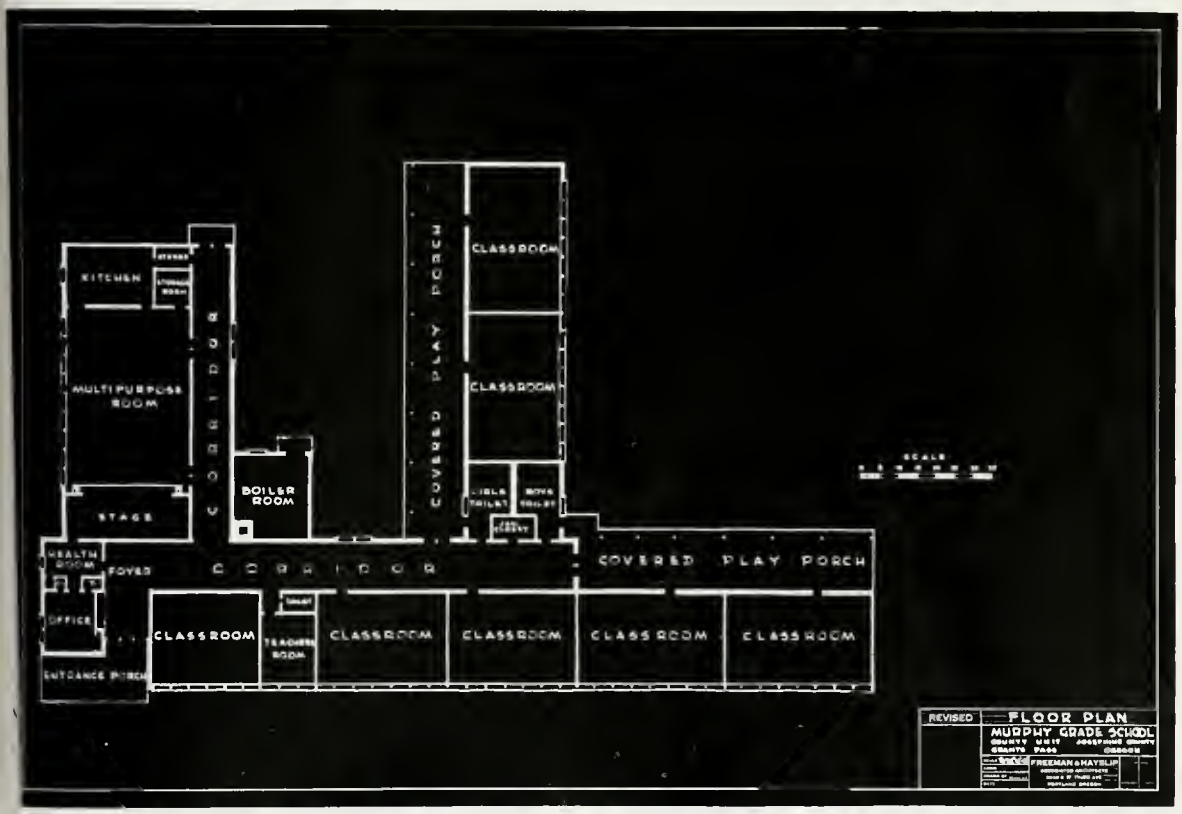
the multiple advantages offered. The single-room school can contain every teacher aid and creature comfort found in a 20-room school or larger. Freeman, Hayslip and Tufts prize O'Brien one-room school in Oregon's Josephine County illustrates the amazing progress in design. The one-room school need no longer be the orphan of the school houses.

The extreme flexibility of the one-story school building and the ease with which it lends itself to enlargement and modernization, is probably best shown by the before-and-after pictures of the Brownsville, Oregon grade school which Freeman, Hayslip and Tufts designed. In these days of financial difficulties for school boards, economy is a must. In the Brownsville school, the architects were able to salvage all of the first floor of the old, obsolete two-story wooden building and fit it beautifully into the design of the modern T-shaped school at a considerable saving in cost. Off came the top floor and the useless belfry.

Another development of the western-designed wood-frame, single-story school, is the ingenuity with which architects have been able to fit the schools into the climatic conditions which prevail in the various regions of the west. In the wetter areas west of the Cascade Mountains, where mild weather is the rule during the winter, schools in many areas have been designed with wide play porches, some up to sixteen feet. They are a part of the building. Students step directly from their classrooms at recess time onto these covered porches, can play outdoors, out of the rain and still be comfortable and get their fresh air.

To make the school the true community center and to provide space for various activities and functions of a typical residential or community area, designers have found still another recommendation for the campus-type or low, ground-hugging school building. Gymnasiums, or com-

FLOOR PLAN of the Murphy grammar school demonstrates the maximum use of space in a typical single corridor building —an essential requisite to minimize space and costs.



munity rooms, can be built as single structures, connected with the school, but each is a self-contained unit. These can be opened for after-school or extra curricular community events and uses, without having to open the entire school. They can also be separately heated and lighted.

There are many variations in design in these new schools. Some architects prefer brick veneer facing, others use a variety of wooden siding, or panelling in vertical or horizontal pattern and some use combinations of wooden siding and brick veneer.

Some architects design the structures with a central hallway onto which open classrooms from each side with full walls of windows and clerestory interior room lighting. Others have been successful in using a central hallway, but with rooms staggered on each side so that each room has three sides of windows. Some use flat roofs, others hip roofs, still others use glued-up laminated wooden girders or timber-connected beams and rafters.

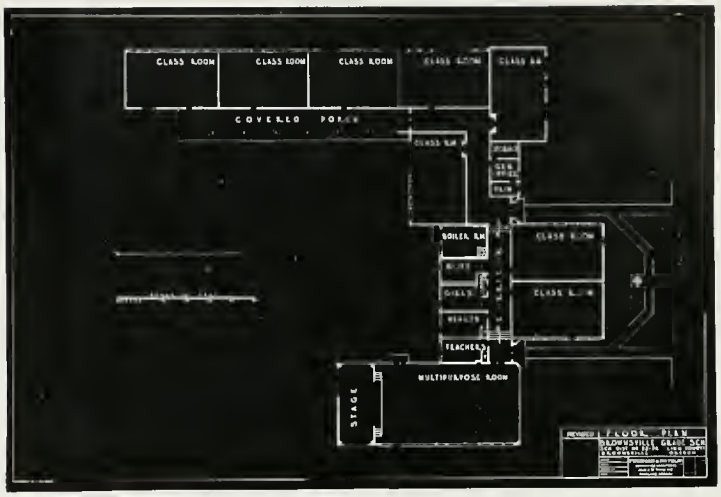
Some designers prefer the side corridor, others the double-load for economy. The trend is pretty much toward the square classroom for teaching efficiency and shortening the building length. Auxiliary top lighting is a generally accepted feature.

By-and-large, the modern, single-story building is being designed to last from 30 to 35 years, as contrasted with the older structures intended to last 50 years. The shorter-lifed building is warranted from the standpoint of sound economics on the basis of original lower cost. It has other equally strong recommendations. Technological improve-

Appearance of the old school building at Brownsville, Oregon before being remodeled and redesigned by architects Freeman, Hayslip and Tufts.

Architects:

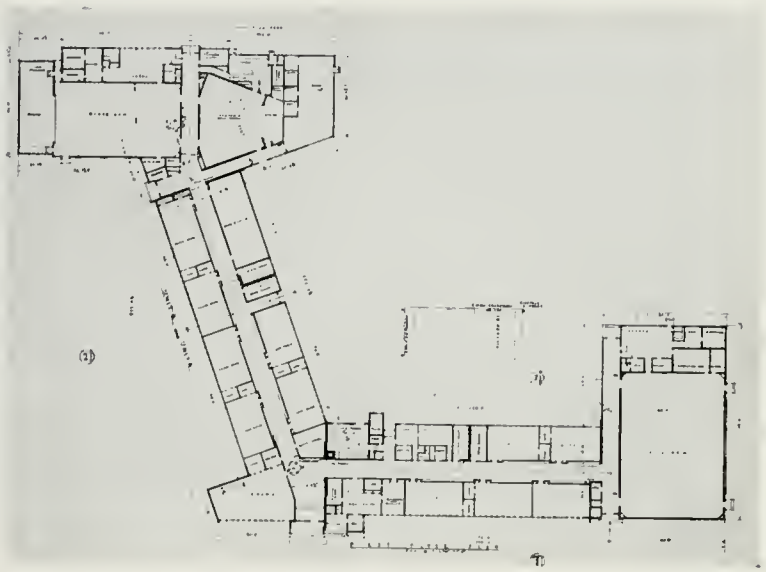
Freemon,
Hayslip
& Tufts.



Taxpayers of the Brownsville, Oregon school district have been saved thousands of dollars by the salvaging of an old obsolete school building (see illustration on opposite page) and absorbing it into a new, streamlined, single-story building (see illustration below).

The architects first lopped off the top floor and belfry. Then the lower floor was made into two classrooms, teacher's, health, boys and girls rooms and a boiler room. The project is an excellent illustration of the flexibility of a modern design school.

SINGLE STORY SCHOOLS . . .



Architects:

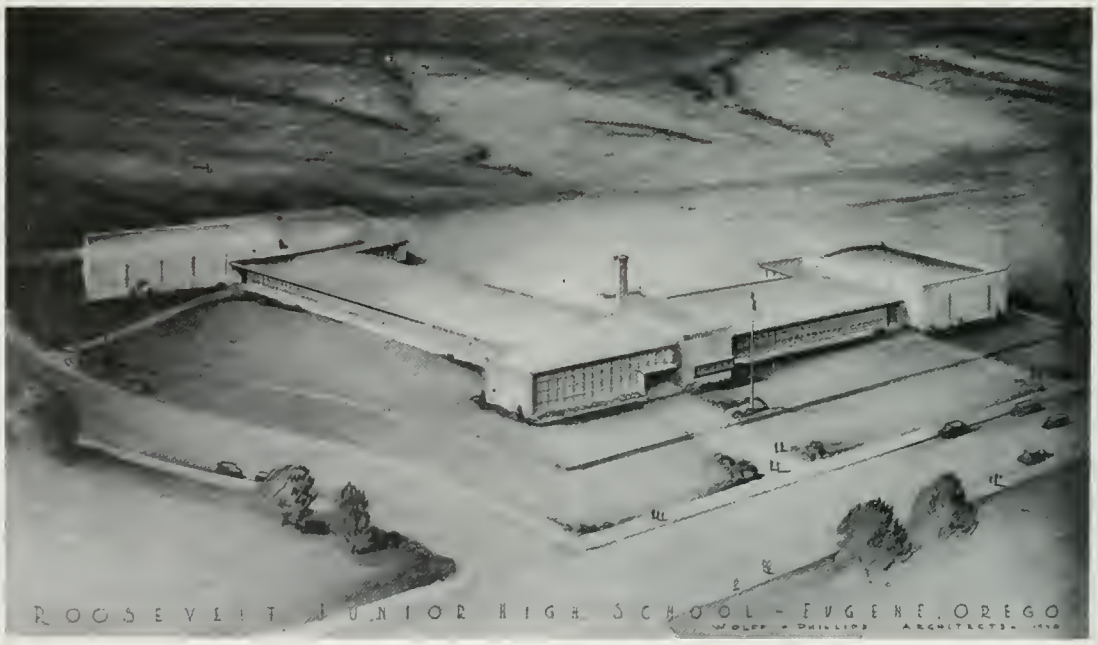
Walff

&

Phillips

One of the mast unusual of the single-stary schools built in the Northwest is the Roosevelt Junior High Schoal at Eugene, Oregon, which cambines a striking treatment af building arrangement to conform to an irregular lat size. The architects have developed an unique utilizatian of space to give maximum efficiency in a structure as large as this porticular schaal.

ABOVE is layout and plan af building. BELOW is rendering of the schoal building as it will appear when completed.

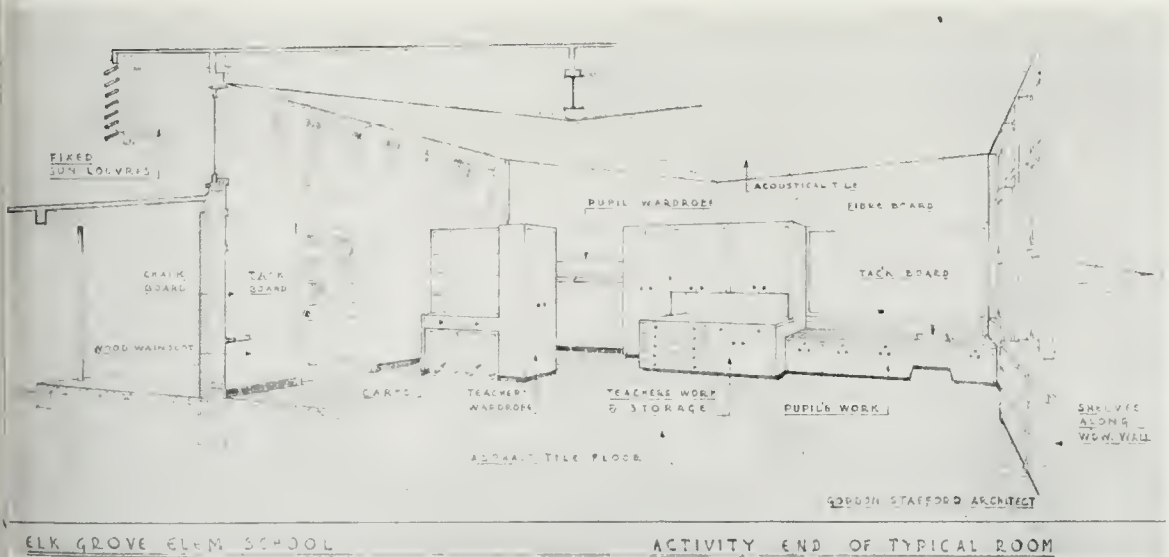


ments in school requirements have changed rapidly in recent years in such vital functions as heating, lighting, sound-proofing and interior design and layout of the classroom and will certainly change as much in the next ten years. Therefore, the heavier, more costly buildings are not justified. They will become obsolete before they have been completely worn out or financially amortized.

The newer schools, designers point out, will last as long as they are needed. Because they are frame construction, they can be easily changed, modernized, or retired after they have served their purpose and been amortized.

All the records seem to indicate that the western architects have again responded to the changing needs of their region with a practical solution to one of the 20th century's most vexing problems in the west. We can expect much more in the way of improved design and departure from the rigidity of the pre-1940's in school architecture in the next ten years when more than $500,000,000 worth of new schools will be constructed here in California, Washington and Oregon.

A Sacramento (California) architect, Gordon Stafford, has designed one of the most compact classrooms in this modern, single story, California type school. Liberal use of builtins give students and teachers a one-stop, full service school room where efficiency and ease of teaching reach a maximum degree of realization.



Attractive aluminum canopy connects new wing with old building.

ALUMINUM LOUVERS FOR ELEMENTARY SCHOOL

FAIRFAX, CALIFORNIA

BAMBERGER & REID, Architects

By MARCIA LEE

Utilization of the warmth and color of south lighting was a revolutionary concept in school design introduced by the San Francisco firm of Bamberger and Reid in the Fairfax Elementary School wing, built in 1948, and carried out in a number of Bay Region schools which the firm has designed since.

The problem of how to capture and diffuse direct sunlight to achieve optimum comfort and visibility in the classrooms -- and do it economically—was solved with the use of high reflectivity aluminum louvers banded across the upper third of the ceiling-height windows which extend the full length of the building.

Jutting out at window sill height below the louvers is a 10′ roof overhang which creates a covered activity area for the outdoor classrooms, doubles as corridor space connecting classrooms along the south wall of the building, and cuts off direct sun from the lower section of the classroom windows.

An aluminum cap sheet roof covers this corridor area. The aluminum sheet reflects heat away from the roof and bounces light waves up to the aluminum louvers above which are so angled to send the light into the classroom.

The louvers are 9¾″ wide, spaced 7½″ apart vertically, and set at a 45° angle to give maximum protection from all direct sunlight. They are supported by steel brackets at a modular spacing of 4′ apart. In this school they cover an area 3′9″ high and 152′ long.

The high reflectivity of aluminum provides max-

Photos on this and opposite page by Roger Sturtevant

Typical schoolroom installation

imum utilization of the sun light and considerably reduces costs of installation and operation of artificial light. Approximately half of the light hitting each louver is bounced back to the louver directly above it which in turn reflects it into the classroom. A check on the light intensities in the Fairfax classrooms indicates more than 200 foot candles at points 4 feet from the south wall and approximately 175 foot candles 4 feet from the north wall and 175 foot candles in the center of the room. The readings were taken on bright days.

There are further economies in the choice of aluminum due to its rust resistant properties which eliminate painting and maintenance costs. For louver construction in all of their work, Bamberger and Reed specify 3S-12H aluminum, .0508" thick with a satin alumilite finish. The aluminum coating of the corridor roof called for ½ gallon of aluminum paint per 100 square feet of roof area.

Exterior view showing installation of aluminum lighting louvers

CALIFORNIA COUNCIL OF ARCHITECTS ANNUAL CONVENTION REPORT

William Henry Rowe, A.I.A. architect of San Francisco and general chairman of the California Council of Architects annual convention in Yosemite Park, really delivered the "goods" in accordance with pre-convention promises when one of the largest gatherings of architects ever held converged on the Ahwahnee Hotel, September 28-29-and 30th.

FRANK V. MAYO
President

From the time President Frank V. Mayo, A. I. A. of Stockton, rapped his gavel at the "kick-off Luncheon" on Thursday, until Don W. Lyon, Master of Ceremonies at the famed "Sportsmen's Dinner" on Saturday night tolled taps to end the convention's festivities, the entire three days were packed with action.

Aside from technical matters discussed at the opening General Session in the afternoon, Thursday's program was highlighted by Col. R. H. Elliot, Corps of Engineers, and Rear Admiral L. N. Moeller, U. S. Navy, who spoke at the "Welcome Dinner" and outlined Army and Navy construction of a type where private architects and engineers are most needed. While most of the Army's construction would be limited to rehabilitation of existing installations, the Navy is expected to appropriate about $145 million of which 25 per cent will be allocated to construction projects on the West Coast.

Consideration of a uniform contract form which would meet all state laws, and standardization of other pertinent documents; a discussion of product literature and information; radiant heating and cooling, and the young architect were given considerable attention during the technical discussions on Friday.

Speaking on the cooperation of the realtor's of California and the architects, F. Herbert Lakey, president of the California Real Estate Board spoke at the Friday banquet. Lakey is a firm believer in the democratic principles of individual freedoms and sounded a warning that unless leaders in the professional, industrial and commercial life of our nation make an active effort to preserve the American Way, there is every indication many of the desirable phases of business will disappear. He cited several situations where housing conditions in Europe had completely altered the generally accepted customs of home construction, through governmental regulation.

Elwyn L. Jordan, Contract Engineer for the Atomic Energy Commission, gave a very interesting description of the overall construction picture at the Hanford, Washington, properties. He described in some detail the means by which architects might qualify themselves for additional construction at the project.

Friday's entertainment program included preliminary contests to determine the best Golfer, Horseshoe pitcher, Pitch and Putter, Ping Pong, and other sports contestant preparatory to awarding of prizes at the annual Sportsmen's Dinner on Saturday. For the women a Fashion Show and Tea was staged on the Terrace and the day's social program completed with a dance in the evening honoring President and Mrs. Frank V. Mayo.

"Helpful Hints on School State Aid", "What's Wrong With Architects Specifications?", and "Schools of Architecture" featured the technical discussions on Saturday and completion of the various sports events with the "Sportsmen's Dinner" in the evening completed what was generally agreed to be the outstanding convention of the six year's existence of the California Council of Architects.

CENTRAL STATES DISTRICT CONFERENCE OF THE A.I.A.

The Nebraska Architects Association, a Chapter of the American Institute of Architects, was host to the Central States District Conference of the A.I.A. on October 13 and 14.

Business and technical sessions, held in the Hotel Fontenelle, Omaha, included speakers Fred N. Severud, Consulting Engineer of New York; Roger Allen, former president of the Michigan Society of Architects; William W. Wurster, A.I.A. of California; Harold D. Hauf, Editor-in-Chief of Architectural Record; and Marshall Schaffer, head of the Public Health Service in Washington, D. C.

MEMORIAL HOSPITAL: The Salinas Valley Memorial Hospital District of Salinas (California) has announced construction of a new 139 bed Memorial Hospital at a cost of $2,000,000. Robert Stanton of Carmel is the architect.

FOUNDERS HALL

(From Page 13)

Drinking wells located at ends of each corridor are finished in sea-green full ceramic glazed tile. The wells are actually recessed curved bays, approximately 8 ft. high, set directly into the partition walls. Rest rooms also are finished in the sea-green ceramic tile, for a three-quarter treatment of the walls, the top portion and ceiling finished in putty plaster, pastel painted.

The new structure carries a slab concrete roof of built-up composition and a top dressing of roofing gravel. The poured concrete walls rise to form a 3 ft. 7 in. parapet finished with a 9 in. band of poured concrete, beneath which the brick veneering begins.

Another exterior feature of the building's south entrance and facade is a cantilevered reinforced molded concrete marquee, with a 16 ft. overhang, extending the length of the end of the building and for the width of the portal around the corner on the building's side. It is in the end wall beneath this overhang in which the stone class markers and Old College cornerstone have been reset to form an historical and unique facade detail.

Construction of the million-dollar Founders Hall was begun in April of 1949, with the building completed on schedule and ready for occupancy early this summer. It represents one of four new buildings in the University's current building expansion program. Other buildings are a $1,240,000 women's dormitory; a $600,000 student cafeteria, and a $100,000 armory for use of the Naval Reserve Officers Training Corps.

The entire construction was under the personal supervision of Don McNeil, vice-president of the J. A. McNeil Co., Inc., general contractors. McNeil, himself, is a graduate of the University's School of Engineering. He was captain of the Trojan football team which won the Pacific Coast conference championship in 1938 and beat Duke University, 7-3, in Pasadena Rose Bowl, New Year's Day, 1939.

When USC President Fred D. Fagg, Jr., turned the first shovelful of earth at groundbreaking for Founders Hall, he did so with a nickel-plated shovel presented to him for the occasion by ex-Trojan McNeil.

All of the veneer brick work, providing the chief architectural motif of decor, also was undertaken by the McNeil company, with this work under the personal supervision of Barney Graves, masonry superintendent for the McNeil organization.

The many patterns of brick involved were a synthesis or amalgamation of those used on other buildings throughout the campus. It was felt that Founders Hall should follow in keeping with the brick masonry construction which is the basic architectural media characterizing all buildings of the University in general. In amalgamating into one building all of the brick patterns carried in the other older buildings, the University has caught up in a single structure a harmonization of the architectural decor, which characterizes and faithfully reflects that of the entire campus.

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NORTHERN CALIFORNIA CHAPTER

F. J. McCarthy, A.I.A. and member of the San Francisco Art Commission, reports plans for the annual San Francisco Art Festival are progressing with many architects taking advantage of the opportunity to display exhibits. The event will be held this year in the old 1915 Palace of Fine Arts Building in the Marina on December 1-2-3.

F. Bourn Hayne has been apopinted Editor of the Chapter Bulletin, although Miss Elizabeth Boyter will continue to help with the monthly publication.

* * *

The Architectural Exhibit recently held in conjunction with the Marin Garden Show was one of the highlights of this year's Show and according to Mrs. Hellen Douglas French, the general public was much interested in the models and accompanying plans.

SOUTHERN CALIFORNIA CHAPTER

In conjunction with the "Know Your City Week" which is to be observed throughout Los Angeles in the near future, the Chapter will design and stage nine art shows to be held simultaneously in nine different city parks. The Chapter will also prepare an itinerary for a tour of important public and privte buildings, the objective being to show the influence of architecture on the daily lives of the public; and the Chapter will also prepare an architectural exhibition stressing moderate and low cost homes and showing the beneficial effects of good design. This exhibit will also deal with community buildings, churches, and centers.

* * *

The meeting on October 10th, held in the Los Angeles County Museum at Exposition Park, was devoted to a consideration of "greater Los Angeles" and plans for development of the city including a proposed auditorium and Music Center.

Dr. James H. Breasted, Jr., director of the Museum made the presentation of the National Honor Award Certificates to Chapter winners, and Dean Arthur B. Gallion, A.I.A., University of Southern California, made the Zelinsky Scholarship Award.

East Bay Chapter:
James H. Anderson, President; Loy Chamberlain, Vice-President; William Corlett, Secretary; Chester Treichel, Treasurer. Office c/o Sec., Bank of America Bldg., Oakland.

Montana Chapter:
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Nevada Chapter:
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Nevada State Board of Architects:
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Tacoma Society:
E. N. Dugan, President; P. G. Ball, Vice-President; Lyle Swedberg, Secretary-Treasurer.

Hawaii Chapter:
James C. Simms, President; Alfred Preis, Secretary, 1507 Kapiolani Blvd., Honolulu, T. H.

The Committee on Education, under the Chairmanship of Herman C. Light, has been conducting a Junior Forum on matters of technical interest to the architectural profession. Two USC student forums have been held—one on Architectural Ethics and Registration, and one on what the architect expects from the draftsman, and vice-versa. Panel participants were Chapter members and members of the State Board of Architectural Examiners.

An open forum on Professional Legislation was held jointly with Frederick Clark's Committee on Legislation.

Conferences have been held with representatives of the American Association of Illuminating Engineers, the UCLA Extension Division and others.

NEW MEMBERS: New Chapter members include Alexander Ban, John C. Lindsay and Burton A. Schutt.

(See Page 38)

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American Society of C. E. San Francisco Section
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Structural Engineers Association of Southern California
E. C. Hillman, Jr., President; Donald F. Shugart, Vice President; Robert J. Short, Secretary-Treasurer. Directors: Charles M. Herd, John Minasian, Harry Bolin, John Case and Lewis Osborne. Office, 202 Architects Bldg., Los Angeles 13.

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STRUCTURAL ENGINEERS ASSOCIATION OF SOUTHERN CALIFORNIA

The Structural Engineers Association of Southern California held its regular monthly meeting on Wednesday, September 6, at the Alexandria Hotel. President Ernie Hillman presided.

Charles Corbit, Jr., of the A.I.S.C. introduced the guest speaker, John S. Davey, Assistant General Manager of Sales, at Russell, Burdsall and Ward Bolt and Nut Company. Davey presented a very interesting talk, supplemented with slides, on "Benefits from High Strength Bolts in Structures".

After actual tests on bolted and riveted connections, preformed under the sponsorship of the American Institute of Steel Construction, one important conclusion was reached—namely, that high strength bolts in static and fatigue tests showed greater strength values than those determined from riveted specimens.

The use of high strength bolts in place of rivets for all field connections has vast economic possibilities as the bolting of a joint is more economical than the riveting of a joint, especially in field construction, and more particularly in small or remote structures where the necessary riveting equipment is not readily available. It would also be more economical to use high strength bolts as erection or fitting up bolts and leave them in place during the field erection of new structures rather than incur the expense of their removal and replacement with rivets.

Recent figures indicate that about 800,000 field rivets are re-driven each year by maintenance crews during the repairing of railroad bridges in the United States, and about 1,400,000 field rivets are driven during the erection of new structures. It is estimated that approximately $160,000 per year can be saved by the railroad industry by the use of high strength bolts in place of rivets in maintenance work alone, with a total saving of $440,000 per year if bolting should be used for all field connections.

Davey made it clear that it was the clamping action of the bolts and the friction induced between connecting plates, rather than the bearing on the plates by the bolts, that determine the strength of the connections.

OCTOBER meeting was devoted to pre-Annual Convention discussions and analysis of Football at U.S.C. by Jeff Cravath, football coach.

NEW MEMBERS include Leon Stein and John Lambie, Associate Members; and Arthur McGee and Paul Kusnitz, members.

AMERICAN SOCIETY FOR METALS PUGET SOUND CHAPTER MEETING

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tion Bureau presented an interesting coffee talk on various means big and little con men use to swindle the public. Counterfeiting, rackets, and sleight-of-hand all take a heavy toll of John Q. Public's cash. It seems all right to trust strangers, but not with your money or baby's first shoes.

In the technical discussion Blake D. Mills, Professor of Mechanical Engineering, University of Washington, covered several recent developments in metals, touching briefly on cold welding, contact arc welding, powdered metals; radiography, ductile cast iron and titanium alloys.

Cold welding is a process for poining metals at room temperature and depends on clean surfaces bonded under high pressure. This method is not expected to supersede fusion and resistance welding in all applications because of the inherent reduction of cross section in the weld area. Competition seems to be with riveting.

Contact arc welding uses electrodes with a heavy conducting coating. The coating contacts the parent metal during welding, and thus the critical arc spacing is eliminated and electrode sticking prevented. Greater welding speed is its main advantage.

Powdered iron finds use in the magnetic clutch. When the particles are energized, a positive driving connection is made through the clutch. Varying the degree of magnetism also varies the clutching action.

In the field of radiography, cobalt "60" has been developed as a substitute for the expensive radium sulphate.

Until recently, titanium has had only limited use. However, its strength weight ratio plus the fact it is the fourth metal in occurrence in the earth's crust offer unusual possibilities. The metal can be work hardened and alloyed to 150,000-160,000 PSI with good ductility possible. Excellent corrosion resistance (on the order of Pt) and low electrical and thermal conductivity are other useful properties. However, it is not easily machined and is not a good bearing material because of undesirable galling characteristics. The main drawbacks to its use is the high cost of the metal.

STRUCTURAL ENGINEERS ASSOCIATION OF NORTHERN CALIFORNIA

The September meeting, held in the Claremont Hotel in Berkeley, proved to be one of the most popular meetings of the year with general discussions on the subject of "High Bond Concrete Bars" stimulating considerable interest among members.

O. W. Irwin, president of Rail Steel Bar Association, was the principal speaker.

John A. Blume was named chairman of the Nominations Committee and with Harry B. Corlett, John J. Gould, Leslie Graham and Karl V. Steinbrugge as members will report nominations for officers for the ensuing year at the November meeting.

A joint SEAONC-AGC (Central Chapter) Committee has been appointed to consider matters of mutual interest to the Contractors and the Structural Engineers. Members of the Committee include Arthur W. Anderson, Jesse Rosenwald and G. Arthur Sedgwick. AGC committee members include Art B. Smith, Sr., Bert O. Summers and Frank Burrows.

NEW MEMBERS include Mario Palmieri, Irving E. Olsen, and Sanford Koretsky. Junior Members, David F. Ludovici, H. Neil Warren, and Thomas D. Wosser, Jr.; and Affiliate member George F. Rotenkolber.

FEMINEERS

The wives of the Civil and Structural Engineers of the San Francisco Bay Area, known as the "Femineers", held their September meeting in San Francisco with Mrs. Jack Horner, president presiding. Twenty-one wives were present, including six new members.

On September 23rd the first social event of the "Femineers" was held at the Mill Valley Country Club, with a buffet dinner followed by dancing being arranged by Mrs. Ed. McKeon.

(See Page 33)

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PRODUCER'S COUNCIL PAGE

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PRODUCERS APPLAUD CONVENTION

Highlighted by the largest attendance in its history, the 23rd annual convention of the California Council of Architects was pronounced a decided success by architects and producers alike following the concluding ceremonies held on Saturday evening, Sept. 30, at the Ahwahnee Hotel, Yosemite National Park. Not only were the architects present by the double handful, but over 90 producers and their wives were present from the two California members of the Council.

Several noteworthy innovations were introduced to those present. The most important of these was undoubtedly the victory of the Northern baseball team, which used the split-umpire system to good advantage to rack up its first victory in the series. Finally finding an umpire on whom they could depend in the person of Jerry Barr, Western Asbestos Co., Captain Ray Brown and his damnyankees forced architect Jack Landon and his you-all boys to give up the trophies they have held for so long.

Notable also was the introduction of a new "Construction Daily" which appeared on the scene in one form or other for three consecutive days before it breathed its last. Capably, if libelously, edited by F. Bourn Hayne, the fledgling newspaper bids fair to becoming one of the least influential journals in the history of the construction industry. Although its advertising rates are much too steep for the majority of most Producers Council firms, the Council extends its best wishes for prosperity and long life in the conventions to come.

Also new for the first time was participation in two of the six discussion panels staged by the architects. Chuck Kraft, President of the Kraftile Co., was moderator of the panel on "The Cold War of Product Information," while Don Lyon, Libbey-Owens-Ford, presided over the discussion of "What's Wrong with Architects' Specifications?" Both panels were well attended and created considerable interest as well as controversy.

The chief feature of the Sportsmen's Dinner, staged annually by the Producers Council on the last evening of the convention, was a public address system that really worked. Also called on to work were five AIA Chapter Presidents, Fred Schwartz of Fresno, John Rex of Los Angeles, Bill Koblik of Sacramento, Ralph Pollack of San Francisco, and Loy Chamberlain of the East Bay Chapter. After being challenged by the toastmaster to demonstrate their respective skills, the resulting creation was so confused that Jim Anderson, a past Chapter President, was called on to rescue them from their predicament. This he did to the satisfaction of all concerned.

Among the fifty-odd prizes donated by the Producers to the winners of their respective events two were outstanding: Ernie Winkler who won the bridge prize in the face of torrid female competition, and Fred Confer, who succeeded in winning the golf tournament of which he was the manager.

ANNUAL EAST BAY INFORMATIONAL MEETING

The Athens Club in Oakland was the scene of the annual East Bay meeting of the Council held on September 18. The United States Plywood Corporation, with Ben Cardinal and Gordon Hughes presiding, presented a most interesting film on Southern Hardwoods. Also featured were many fine displays of the company's products including Weldwood Haberdashery. The attendance was the Council's largest for an East Bay meeting and guarantees the success of future programs.

HAUSERMAN COMPANY TO HOST OCTOBER DINNER MEETING

E. F. Hauserman Co. was host to approximately 400 Bay Area Architects, Engineers and Producers at a dinner in the main ballroom of the Fairmont Hotel on Thursday evening, Oct. 19. Following cocktails and dinner, Fred M. Hauserman, President of the company, explained latest innovations in building construction for interiors. By way of illustration a complete room was erected and disassembled before the guests. Making the trip from Cleveland and assisting in the program was C. J. Nocar, Chief Development Engineer and K. A. Hawkins, Technical Information Manager.

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WITH THE ENGINEERS

(From Page 31)

The next meeting has been scheduled for October 18 in San Francisco.

STRUCTURAL ENGINEERS ASSOCIATION OF CALIFORNIA

Technical programs presented at the Annual Convention of the Structural Engineers Association of California at the Hotel Del Coronado, October 12-13-14, brought together a group of experts in the engineering and allied fields from all parts of the nation.

HARRY W. BOLIN
President

Harry W. Bolin, president, presided at meetings which included the presentation of papers by Maj. Gen. Leif Sverdrup, St. Louis, Mo., on the subject "Modern and Stone Age Engineering".

A symposium on lightweight concrete including "Design Experience" by Murray Erick, Los Angeles, a paper by Prof. R. E. Davis, director, Engineering Materials Laboratory, University of California at Berkeley and "Construction Experience" by Paul Elsner, San Francisco, chief engineer, Lindgren and Swinerton, Inc., general contractors for the new addition to the State Capitol in Sacramento.

"Structural Steel Fireprooling" by C. M. Corbit, Jr., Los Angeles district engineer for the American Institute of Steel Construction, from a background of 26 years in the Southern California steel industry.

"Lightweight Steel" by Bert L. Wood, New York City, American Iron and Steel Institute research chief; "Glued Laminated Wood Used in Structural Design" by Alan Freas, Madison, Wis., Forest Products Laboratory, U. S. Department of Agriculture; a specialist in glued lumber and its application in design; "Design of Protective Structures"—a new concept of structural behavior, by A. Amirikian, head engineer, Welding and Special Structures Section, Bureau of Yards and Docks, Navy Department, Washington, D. C.

"Prestressed and Prefabricated Concrete" by Thor Germundsson, Chicago, Ill., Structural and Railways Bureau, Portland Cement Association. In addition, Leonard Hollister, Sacramento, Calif., engineer of design, California State Division of Highways, discussed prestressed concrete as adapted to bridge design.

(See Page 35)

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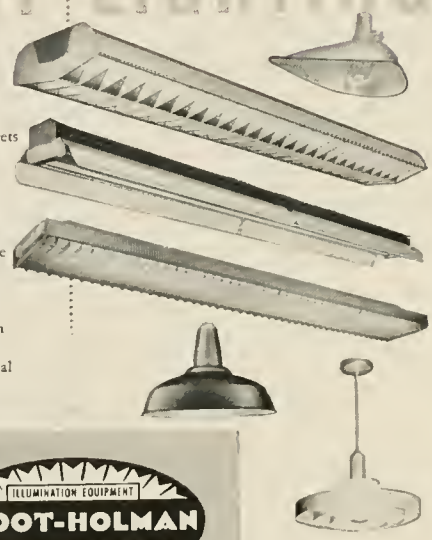

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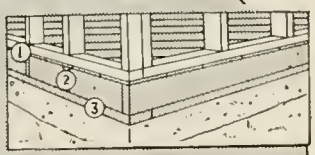

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HEADLINE NEWS & VIEWS

By E. H. W.

"TOWARD WISER USE OF WOOD" is the subject of a booklet released by the Employees' Association of the Forest Products Laboratory. It deals with the history and work of the Laboratory.

* * *

"THE fact that Federal taxes will be increased" due to the explosive world situation, "should not deter the public from endeavoring to eliminate local tax extravagances."—James O. Stevenson, Sec., United Taxpayers, Inc.

* * *

FIRE destruction in the United States during June is estimated at $57,116,000, an increase of 10.3% over June of last year. It was the greatest fire loss recorded for the month of June during the past 21 years.

* * *

LAST year homeowners spent an average of $353 to repair and modernize their homes, according to a recent FHA report.

* * *

OF one thing you can be sure—"NO one in Washington knows the Important Answers" when it comes to the question of possible construction industry controls and building material shortages.

* * *

CONTROLS or no controls, it looks like this year is sure to beat last year's record of 1,025,000 housing starts.

A snack bar-counter combination, located between the kitchen and dining room, can double in service. It is handy for a pass-through when food and dishes are being taken for one room to the other, as well as an informal eating space, says the National Association of Home Builders.

* * *

MORE builders are putting "extras" into their houses: built-in storage cabinets, fans, automatic radios, wall-to-wall carpeting, better selection of wall paper and paints, flower boxes, etc. All items can often be included in the mortgage, giving the buyer luxuries at a much lower monthly payment than if he were to buy them separately.

* * *

STUBBORN drawers can be made to slide easy with thumb tacks. Plane a shaving or two off the bottom edge of the sides. Place smooth head thumb tacks on the drawer separator, so that sides will "ride" on the tack heads. Along with making the drawers slide easier, the tacks prevent powdering or splintering of the bottom edge of the sides.

WITH THE ENGINEERS

(From Page 33)

Guest speaker of the convention was Tony Whan, president, Pacific Indoor Advertising Co.; vice-president, Pacific Outdoor Advertising Co.; past president, Los Angeles Sales Executives Club; vice-president, Southern California Business Men's Assoc.; past president, Food Industries Sales Managers Club of L. A.; Director of Illuminators; past president, K.S.C. Alumni Association; Coordinator of C.E.D. Selling Program.

Among entertainment highlights of the Convention was a luncheon and inspection tour of the Kaiser Steel Plant at Fontana; and special features for the wives of engineers attending the meetings.

WINS ENGINEERING AWARD

William F. Little, Engineer in Charge of the Photometric Dept. for Electrical Testing Laboratories, Inc. New York, was awarded the 1950 Illuminating Engineering Society Medal, the highest honor in the lighting field, at the Society's recent annual meeting in Pasadena, California.

The presentation was made by President Charles H. Goddard at the opening sessions. The Medal is awarded annually for meritorious achievement furthering the profession, art or knowledge of illuminating engineering.

ILLUMINATING ENGINEERING SOCIETY ELECTS OFFICERS

Walter Sturrock, of the General Electric Company, was elected President of the National Technical Conference of the Illuminating Engineering Society at the annual meeting of the organization in Pasadena recently.

Speaking before 600 members and guests President Sturrock outlined the Society's plans for 1950-51, and pointed out the membership has doubled in the past eight years.

Other new officers are: Vice-President, E. M. Strong, Cornell University, Ithaca, N. Y.; Treasurer, R. F. Hartenstein, Ohio Edison Co., Akron, Ohio; General Secretary, A. H. Manwaring, Philadelphia Electrical & Mfg. Co., Philadelphia, Pa.; Directors: L. A. Hobbs, Smoot-Holman Co., Inglewood, Calif.; Roy A. Palmer, Duke Power Co., Charlotte, N. C.

MAURICE T. JONES, Engineer, has been assigned as Resident Engineer on the construction of a phosphate plant in the Food Machinery and Chemical Company at Pocatello, Idaho.

WILLIAM H. POPERT, Engineer, has been named chairman of the Publications Committee of the Northern California Structural Engineers Association.

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BOOK REVIEWS
PAMPHLETS AND CATALOGUES

THE URBAN PATTERN—City Planning and Design. By Arthur B. Gallion & Simon Eisner. D. Van Nostrand Co., Inc., New York. Price $12.00.

A practical approach to problems of city planning and development by Arthur B. Gallion, Dean of the School of Architecture, University of Southern California in collaboration with Simon Eisner, City Planner and Technical Director of the Community Redevelopment Agency of Los Angeles.

The book provides a realistic survey for architects, city planning officials, and others interested in the development of American cities. A great deal of original research is presented, together with many drawings, maps and photographs.

RUSSIAN IMPACT ON ART. By Mikhail Alpatov. Philosophical Library, New York. Price $7.50.

Covering the development of Russian painting, sculpture, architecture, literature and music, and its relation to that of the world from ancient to modern times, this book by Mikhail Alpatov which has been edited and has a preface by Martin L. Wolf, and translated by Ivy Litvinov, is the result of long research in the field.

The book offers fresh interpretations of many classical works based on a wide survey of the history of their origins, their social background and respective epochs, their underlying philosophical content and their artistic form.

The complete picture of the country's artistic growth is shown against a background of the historical changes and intellectual life of the nation covering the 1000 years ending in 1917.

UNDIVIDED RESPONSIBILITY — Key to Lower Construction Costs. The Associated General Contractors of America, Inc., Washington, D. C.

Individuals or groups contemplating the erection of new buildings or extensive remodelling of old ones will find valuable information in this booklet which presents reasons why the general contractor is in a position to render superior service under a single overall contract.

Sections of the publications deal with: Advantages of One General Contract, Bidding, Award, Skill, Integrity and Responsibility. Copies are available from the AGC, Washington, D. C.

NEW CATALOGUES AVAILABLE

Any of the catalogues or folders described here may be obtained by forwarding your request as indicated in the coupon below to the office of the ARCHITECT & ENGINEER. *Merely mark the items you want and clip or paste the coupon to your letterhead.*

211. THE FACTS OF ARCHITECTURAL PORCELAIN ENAMEL. A new folder describing the uses and applications of Architectural Porcelain Enamel has just been released by the Porcelain Enamel Publicity Bureau. The booklet contains many illustrations of uses both decorative and functional with construction details amply indicated.

212. LOADGRIP CLAMP HANGER. A new folder describing the uses of a new hanger for supporting pipes, conduits, ducts, furring strips, etc. from the underside of standard pre-cast concrete joists. The folder illustrates and describes in detail the features of this device which is called the Loadgrip Clamp Hanger.

213. BOILER RATING CATALOG. Detroit—A new type of consolidated catalog, covering the complete line of Pacific Steel Boilers manufactured by the Pacific Steel Boiler Division of the Corporation, was announced by Wesley J. Peoples, chairman of the board and president of United States Radiator Corporation. The new catalog gives ratings, dimensions and complete data on all Pacific Boilers—of all sizes—for all types of firing. Roughing-in dimensions are given in full detail. 9/50.

214. HOSPITAL FURNITURE. Carrom Industries, Inc., Ludington, Michigan has just issued a new, colorful and informative brochure on their Suite 5000 Hospital Furniture. The brochure illustrates a complete room grouping and individual furniture pieces making up this group are also illustrated and thoroughly described. 4 pages illus., 9/50.

215. ALUMINUM WINDOWS. A new catalog covering the details and specifications of the DONOVAN Universal Aluminum Windows is available. The catalog covers the features and advantages of the window; details of awning and projected types, multiple operated and independently operated; casement windows; installation details and specifications. A.I.A. 16E, 8 pages illus., 9/50.

216. STANDARD CODE FOR TESTING AND RATING STEAM UNIT HEATERS. Bulletin No. 10, the Standard Code for Testing and Rating Steam Unit Heaters, Second Edition, has just been released by the Industrial Unit Heater Association. It supersedes the first edition, 1930, which was prepared and adopted jointly by the Association and the American Society of Heating & Ventilating Engineers. The second edition is issued under the same authorities. Improved testing equipment, instruments and technique have developed through the years and the purpose of the second edition is to recognize them. After complete laboratory tests these advances have been incorporated in the Code. A.I.A. 30-D-11, 20 pages illus., 10/50.

217. PANELS WITH STEEL CROSS MEMBERS. Latest bulletin available from Symons Clamp & Mfg Co., 4249 Diversey Ave., Chicago 39, Ill., is that featuring Symons panels with steel cross members. The bulletin illustrates three different size panels as well as the individual pieces used in constructing the steel cross members. Also included in the bulletin is a chart showing the hardware required for panels with steel cross members. 10/50.

218. PERMALITE JOB DATA. A new 50 page Permalite Job Data Brochure completely illustrated is now available. It contains typical Permalite jobs throughout the country with such job data as the name of the Architect, General Contractor, Sub-Contractor and the amount of Permalite and how it was used. These typical jobs have been selected from throughout the United States, covering California, Texas, Illinois, New York, New Jersey, Pennsylvania and Washington, D. C. 52 pages illus., 9/50.

219. FLUORESCENT LUMINAIRE WITH PATTERNIZER FITTING. A new catalog has been released by the Miller Company announcing the new Hartford Fluorescent Luminaire in combination with the new Patternizer fitting. This is an innovation in suspension and surface lighting providing, according to them, good light, plus architectural harmony, at low overall cost. The Hartford-Patternizer combination is described in complete detail in this catalog folder. A.I.A. 31-F-2, 6 pages illus., 10/50.

220. METAL CABINET WORK FOR HOSPITALS. To help architects and their hospital clients become better acquainted with the types and styles of metal cabinetwork obtainable from Herring-Hall-Marvin, the company has published a brochure featuring adaptable stock designs. This helpful literature attractively displays typical examples of metal cabinets, cases, counters, bases, sinks, lockers and shelving installed by the manufacturer in some of the world's most modern hospitals. Specifications and drawings of various construction details common to all units are offered free in the brochure. General construction features and names of a few of the many hospitals using Herring-Hall-Marvin equipment are listed. A.I.A. 35-K, 4 pages illus., 10/50.

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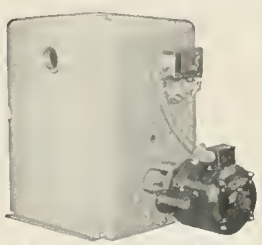

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A.I.A. ACTIVITIES

From Page 29)

SCHOOL OF ARCHITECTURE UNIVERSITY OF OREGON

The School of Architecture and Allied Arts at the University of Oregon, recently announced faculty additions for the current scholastic year including Heinrich Waechter, Associate Professor of Architecture; Edmond McCollin, Assistant Professor of Architecture; and Donald Sites, Lionel Chadwick and Jan Smekens, Instructors in Architecture.

Prof. Wallace Hayden is on leave for the year and is traveling in South America, and Prof. Jack Wilrinson is on leave for study in Europe.

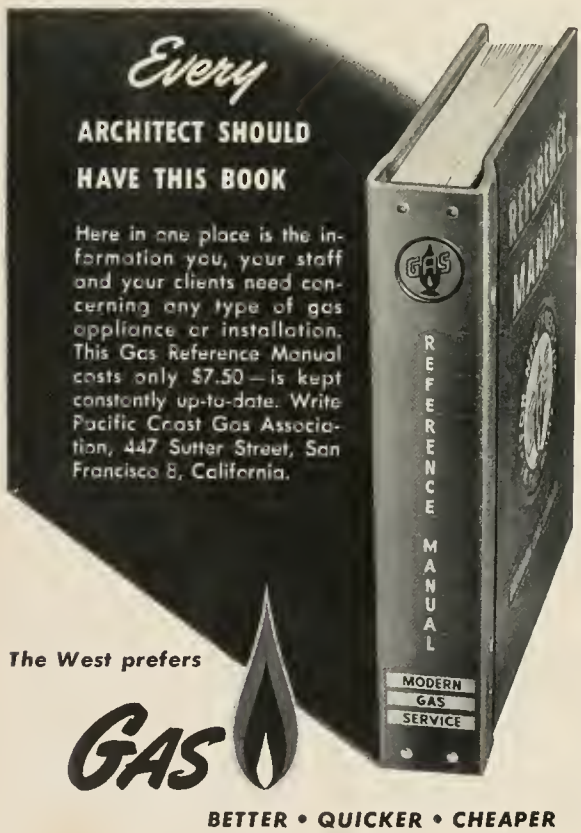
Warren Holbrook, Joseph Daugherty, Donald Rankin, Howard Hall, Robert Feasley and Mrs. Jane Gehring, graduate assistantships are working for advanced degrees.

COAST VALLEYS CHAPTER OF ARCHITECTS CHARTERED

The four central coast counties of California, including Monterey, Santa Cruz, San Benito and Santa Clara counties, have formed the Coast Valleys Chapter of the American Institute of Architects.

Chester O. Root, Architect of San Jose, and president of the Chapter received the Charter at a dinner meeting held during September in Salinas, which contains the names of twenty-five architects practicing in the four counties.

Guest speakers for the occasion included Victor Thompson, professor of architecture at Stanford University, and Ralph Priestly, head of the architectural engineering department at California Polytechnic.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JOINT INFORMATION COMMITTEE

(From Page 6)

benefit of all concerned." Rainey pointed out that in many instances a lot of details were not necessary, while at other times details were absolutely essential. "In an example where failure to follow specifications results in a building failure, it is necessary that the architect have his specifications in detail. The architect's work stands in black and white and any construction failure is always placed on the architect's door-step." Rainey also pointed out that sometimes the client's wishes for new methods and new materials add to the cost of construction, but that in such instances the added costs are acceptable to the client. Rainey believes that considerable improvement has been made during the past few years in the field of specifications and "will continue to be made," as architects are always open to suggestions and ways and means of improving the writing of specifications.

Four major points came out of the discussions that bear further study and possible action: 1) Careful selection of products—better use of technical information which is available, 2) There is too much tendency to tell the contractor and subcontractor how to do the work, 3) There is improper consideration of work segregation in craft performance, and 4) Specifications should make more of an effort to identify the scope of work.

NEWS AND COMMENT ON ART

(From Page 7)

The event was held in conjunction with "Know Your City Week". Art schools, museums, galleries and architects held open house and specially conducted tours throughout the city at the same time.

Some of the architects participating in the program were: Stephen Stepanian, Cheviot Hills Park; Jack C. Lipman, Cabrillo Beach; Robert B. Stacy-Judd, North Hollywood Park; Philip A. Conklin, Queen Anne Park; Paul Williams, South Park; Theodore Criley, Jr. Sycamore Grove Park; Raphael S. Soriano, Lou Costello Junior Recreation Center; Roscoe Wood, Van Ness Playground; A. Quincy Jones, Hollywood Park; Carl L. Maston, Beverly Hills; Sumner Spaulding, Richard Neutra, John Rex, and William Beckett.

ESTIMATOR'S GUIDE

BUILDING AND CONSTRUCTION MATERIALS

PRICES GIVEN ARE FIGURING PRICES AND ARE MADE UP FROM AVERAGE QUOTATIONS FURNISHED BY MATERIAL HOUSES TO SAN FRANCISCO CONTRACTORS. 3% SALES TAX ON ALL MATERIALS BUT NOT LABOR

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

BONDS—Performance or Performance plus Labor and Material Bond(s), $10 per $1000 on contract price. Labor & Material Bond(s) only, $5.00 per $1000 on contract price.

BRICKWORK—MASONRY—

Common Brick—Per 1 M laid—$100.00 up (according to class of work).
Face Brick—Per 1 M laid—$200.00 and up (according to class of work).
Brick Steps—$3.00 and up.
Common Brick Veneer on Frame Bldgs.—Approx. $1.20 and up—(according to class of work).
Face Brick Veneer on Frame Bldgs.—Approx. $2.00 and up (according to class of work).
Common Brick—$34.00 per M—truckload lots, delivered.
Face Brick—$81.00 to $106.00 per M, truckload lots, delivered.

Glazed Structural Units—

Clear Glazed—	
2 x 6 x 12 Furring	$1.50 per sq. ft.
4 x 6 x 12 Partition	1.75 per sq. ft.
4 x 6 x 12 Double Faced Partition	2.10 per sq. ft.
For colored glaze add	.25 per sq. ft.

Mantel Fire Brick—$90.00 per M—F.O.B. Pittsburgh.
Fire Brick—Per M—$96.00 to $130.00.
Cartage—Approx. $9.00 per M.
Paving—$75.00.

Building Tile—

8x5½x12-inches, per M	$139.50
6x5½x12-inches, per M	105.00
4x5½x12-inches, per M	84.00

Hollow Tile—

12x12x2-inches, per M	$116.00
12x12x3-inches, per M	124.00
12x12x4-inches, per M	140.00
12x12x6-inches, per M	186.00

F.O.B. Plant

BUILDING PAPER & FELTS

1 ply per 1000 ft. roll	$5.30
2 ply per 1000 ft. roll	7.60
3 ply per 1000 ft roll	9.70
Brownskin, Standard 500 ft. roll	6.85
Sisalkraft, reinforced, 36 in. by 500 ft. roll	7.00

Sheathing Papers—

Asphalt sheathing, 15-lb. roll	$1.98
30-lb. roll	2.93
Dampcourse, 216-ft. roll	2.95
Blue Plasterboard, 60-lb. roll	5.10

Felt Papers—

Deadening felt, ¾-lb., 50-ft. roll	$3.13
Deadening felt, 1-lb.	3.69
Alphalt roofing, 15 lbs.	1.98
Asphalt roofing, 30 lbs.	2.93

Roofing Papers—

Asphalt Rfg., 15 lb.	$2.09
Standard Grade, 108-ft. roll, Light	1.81
Medium	2.10
Heavy	2.49
Extra Heavy	2.88

BUILDING HARDWARE—

Sash cord com. No. 7	$2.65 per 100 ft.
Sash cord com. No. 8	3.80 per 100 ft.
Sash cord spot No. 7	3.65 per 100 ft.
Sash cord spot No. 8	4.00 per 100 ft.
Sash weights, cast iron, $100.00 ton.	
1-Ton lots, per 100 lbs.	$3.75
Less than 1-ton lots, per 100 lbs.	$4.75
Nails, per keg, base	$11.00
8-in. spikes	11.00
Rim Knob lock sets	3.50
Butts, dull brass plated on steel, 3½x3½	.71

CONCRETE AGGREGATES—

The following prices net to Contractors unless otherwise shown. Carload lots only.

	Bunker per ton	Del'd per ton
Gravel, all sizes	$2.44	$2.90
Top Sand	2.38	3.13
Concrete Mix	2.38	3.06
Crushed Rock, ¼" to ¾"	2.38	2.90
Crushed Rock, ¾" to 1½"	2.38	2.90
Roofing Gravel	2.81	2.90
River Sand	2.50	3.00
Sand—		
Lapis (Nos. 2 & 4)	3.56	3.94
Olympia (Nos. 1 & 2)	3.56	3.88

Cement—

Common (all brands, paper sacks), carload lots, $3.39 per bbl. f.o.b. car; delivered $3.60.
Per Sack, small quantity (paper) $1.00
Carload lots, in bulk per bbl. 2.79
Cash discount on carload lots, 10c a bbl., 10th Prox., less than carload lots $4.00 per bbl. f.o.b. warehouse or delivered.
Cash discount 2% on L.C.L.

Trinity White, Medusa White: 1 to 100 sacks, $3.13 sack warehouse or del.; $9.56 bbl. carload lots.

CONCRETE READY-MIX—

1-2-4 mix, to 10 yards*	$11.15
10 to 100* yards	10.15
100 to 500 yards	9.65
Over 500 yards	9.45

* Delivered to site.

CONCRETE BLOCKS—

	Haydite	Basalt
4x8x16-inches, each	$.16	$.16
6x8x16-inches, each	.21	.21
8x8x16-inches, each	.25	.25
12x8x16-inches, each	.33	.375
12x8x24-inches, each		.60

Haydite Aggregates—

¾-inch to ⅜-inch, per cu. yd. $6.50
⅜-inch to ⅛-inch, per cu. yd. 6.50
⅜-inch to 0-inch, per cu. yd. 7.00

DAMPPROOFING and Waterproofing—

Two-coat work, $9.00 per square.
Membrane waterproofing—4 layers of saturated felt, $10.00 per square.
Hot coating work, $5.00 per square.
Medusa Waterproofing, $3.50 per lb. San Francisco Warehouse.
Tricosal concrete waterproofing. 60c a cubic yd. and up.

ELECTRIC WIRING—$15 to $20 per outlet for conduit work (including switches).

Knob and tube average $6.00 per outlet.

ELEVATORS—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing a slow speed automatic passenger elevator in small four story apartment building, including entrance doors, about $9,500.00.

EXCAVATION—

Sand, $1.00; clay or shale, $1.50 per yard.
Trucks, $30 to $45 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

FIRE ESCAPES—

Ten-foot galvanized iron balcony, with stairs, $250 installed on new buildings; $300 on old buildings.

FLOORS—

Asphalt Tile, ⅛ in. guage 18c to 35c per sq. ft.
Composition Floors, such as Magnesite, 50c per square foot.
Linoleum, standard guage, sq. yd.... $2.75
Mastipave—$1.50 per sq. yd.
Battleship Linoleum—⅛"—$3.00 sq. yd.
Terazzo Floors—$1.50 per sq. ft.
Terazzo Steps—$2.50 per lin. ft.
Mastic Wear Coat—according to type—20c to 35c.

Hardwood Flooring—

Oak Flooring—T & G—Unfin.—

	25/32x2¼	½x2	⅜x2	5/16x2
Clear Qtd., White	$425	$405	$	$
Clear Qtd., Red	405	380	$	$
Select Qtd., Red or White	355	340		
Clear Pln., Red or White	355	340	335	315
Select Pln., Red or White	340	330	325	300
#1 Common, Red or White	315	310	305	280
#2 Common, Red or White	305			

Prefinished Oak Flooring—

	Prime	Standard
½ x 2	$369.00	$359.00
½ x 2½	380.00	370.00
25/32 x 2¼	390.00	381.00
25/32 x 2¾	375.00	355.00
25/32 x 3¼	395.00	375.00
33/32 x 2¼ & 3¼ Ranch Plank		415.00

Unfinished Maple Flooring—

25/32 x 2¼ First Grade	$390.00
25/32 x 2¼ 2nd Grade	365.00
25/32 x 2¼ 2nd & Btr. Grade	375.00
25/32 x 2¼ 3rd Grade	240.00
25/32 x 3¼ 3rd & Btr. Jtd. EM	380.00
25/32 x 3½ 2nd & Btr. Jtd. EM	390.00
33/32 x 2¼ First Grade	400.00
33/32 x 2¼ 2nd Grade	360.00
33/32 x 2¼ 3rd Grade	320.00

Floor Layer' Wage $2.35 hr. (legal as of Nov. 1, 1949. Given by Inlaid Floor Co.)

GLASS—

Single Strength Window Glass	$ .27 per □ ft.
Double Strength Window Glass	.38 per □ ft.
Plate Glass, ¼ polished to 75	1.10 per □ ft.
Plate Glass, ¼ polished, 75 to 100	1.40 per □ ft.
Plate Glass, ¼ Heat Treated	2.25 per □ ft.
¼ in. Polished Wire Plate Glass	2.00 per □ ft.
¼ in. Rgh. Wire Glass	.64 per □ ft.
⅛ in. Obscure Glass	.40 per □ ft.
¼ in. Obscure Glass	.64 per □ ft.
⅛ in. Heat Absorbing Obscure	.58 per □ ft.
¼ in. Heat Absorbing Wire	.86 per □ ft.
Glazing of above additional $.15 to	.30 per □ ft.
Glass Blocks, set in place	3.50 per □ ft.

HEATING—

Average, $3.50 to $4.00 per sq. ft. of radiation, according to conditions.
Warm air (gravity) average $64 per register.
Forced air average $91 per register.

INSULATION AND WALLBOARD—

Rockwool Insulation—
(2") Less than 1,000 □ ft $64.00
(2") Over 1,000 □ ft. 59.00
Cotton Insulation—Full-thickness
(3⅜") ..... $95.50 per M sq. ft.
Siselation Aluminum Insulation—Aluminum coated on both sides ..... $23.50 per M sq. ft.
Tileboard—4'x6' panel ..... $9.00 per panel
Wallboard—½" thickness ..... $55.00 per M sq. ft.
Finished Plank ..... $69.00 per M sq. ft.
Ceiling Tileboard ..... $69.00 per M sq. ft.

IRON—Cost of ornamental iron, cast iron, etc., depends on designs.

LUMBER—

No. 1 Common ..... $85.00 per M
No. 2 Common ..... 83.00 per M
Select O. P. Common ..... 90.00 per M

Flooring—

	Per M Delvd.
V.G.-D.F. 8 & 8tr. 1 x 4 T & G Flooring	$225.00
"C" and better—all	225.00
"D" and better—all	225.00
Rwd. Rustic—"A" grade, medium dry. 8 to 24 ft.	185.00
Plywood	18c to 32c per ft.
Plyscord .	11½c per ft.
Plyform	25c per ft.

Shingles (Rwd. not available)—
Red Cedar No. 1—$9.50 per square; No. 2, $7.00; No. 3, $5.00.
Average cost to lay shingles, $6.00 per square.
Cedar Shakes—½" to ¾" x 24/26 in handsplit tapered or split resawn, per square $15.25
¾" to 1¼" x 24/26 in split resawn, per square 17.00
Average cost to lay shakes,— 8.00 per square

Pressure Treated Lumber—
Wolmanized Add $35 per M to above
Creosoted, 8-lb. treatment Add $45 per M to above

MARBLE—(See Dealers)

METAL LATH EXPANDED—

Standard Diamond, 3.40, Copper Bearing, per carloads, per 100 sq. yds. $39.00
Standard Ribbed, ditto $41.00

MILLWORK—Standard.

D. F. $150 per 1000. R. W. Rustic $175 per 1000 (delivered).
Double hung box window frames, average with trim, $12.50 and up, each.
Complete door unit, $15 to $25.
Screen doors, $8.00 to $12.00 each.
Patent screen windows, $1.25 a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., upper $9.00 to $11.00; lower $12.00 to $13.00.
Dining room cases, $20.00 per lineal foot. Rough and finish about $1.00 per sq. ft
Labor—Rough carpentry, warehouse heavy framing (average), $75.00 per M.
For smaller work average, $85.00 to $100. per 1000.

PAINTING—

Two-coat work ..... per yard 85c
Three-coat work ..... per yard $1.10
Cold water painting ..... per yard 25c
Whitewashing ..... per yard 15c

Linseed Oil, Strictly Pure (Basis 7¾ lbs. per gal.)	Raw	Boiled
Light iron drums ..... per gal.	$2.02	$2.08
5-gallon cans ..... per gal.	2.14	2.20
1-gallon cans ..... each	2.26	2.32
Quart cans ..... each	.62	.64
Pint cans ..... each	.34	.35

Turpentine (Basis, 7.2 lbs. per gal.)	Pure Gum Spirits
Light iron drums ..... per gal.	$1.00
5-gallon cans ..... per gal.	1.12
1-gallon cans ..... each	1.24
Quart cans ..... each	.38
Pint cans ..... each	.23

Replacement Oil—$2.75 per gal. in drums. $2.75 per gal. in 5-gal. containers.
Use Replacement Oil ..... $3.00 per gal. in 1 gal. cont.
A deposit of $7.50 required on all drums.

PATENT CHIMNEYS—

6-inch ..... $2.50 lineal foot
8-inch ..... 3.00 lineal foot
10-inch ..... 4.00 lineal foot
12-inch ..... 5.00 lineal foot

PLASTER—

Neat wall, per ton delivered in S. F. in paper bags, $17.60.

PLASTERING (Interior)—

	Yard
3 Coats, metal lath and plaster	$3.00
Keene cement on metal lath	3.50
Ceilings with ¾ hot roll channels metal lath (lathed only)	3.00
Seilings with ¾ hot roll channels metal lath plastered	4.50
Single partition ¾ channel lath 1 side (lath only	3.00
Single partition ¾ channel lath 2 inches thick plastered	8.00
4-inch double partition ¾ channel lath 2 sides (lath only)	5.75
4-inch double partition ¾ channel lath 2 sides plastered	8.75
Thermax single partition; 1" channels; 2¼" overall partition width. Plastered both sides	7.50
Thermax double partition; 1" channels; 4¾" overall partition width. Plastered both sides	11.00
3 Coats over 1" Thermax nailed to one side wood studs or joists	4.50
3 Coats over 1" Thermax suspended to one side wood studs with spring sound isolation clip	5.00

Note—Channel lath controlled by limitation orders.

PLASTERING (Exterior)—

	Yard
2 coats cement finish, brick or concrete wall	$2.50
3 coats cement finish, No. 18 gauge wire mesh	3.50

Lime—$4.00 per bbl. at yard.
Processed LLiLme—$4.15 per bbl. at yard.
Rock or Grip Lath—⅜"—30c per sq. yd.
⅝"—29c per sq. yd.
Composition Stucco—$4.00 sq. yard (applied).

PLUMBING—

From $200.00 per fixture up, according to grade, quality and runs.

ROOFING—

"Standard" tar and gravel, 4 ply—$11.00 per sq. for 30 sqs. or over.
Less than 30 sqs. $14.00 per sq.
Tile $40.00 to $50.00 per square.
No. 1 Redwood Shingles in place, 4½ in. exposure, per square $18.25
5/2 No. 1 Cedar Shingles, 5 in. exposure, per square 14.50
5/8 x 16"—No. 1 Little Giant Cedar Shingles, 5" exposure, per square .. 18.25
4/2 No. 1-24" Royal Cedar Shingles 7½" exposure, per square 23.00
Re-coat with Gravel $5.50 per sq.

Asbestos Shingles, $27 to $35 per sq. la
½ to ¾ x 25" Resawn Cedar Shakes, 10" Exposure ..... $30.
¾ to 1¼ x 25" Resawn Cedar Shakes, 10" Exposure ..... $35.
1 x 25" Resawn Cedar Shakes, 10" Exposure ..... 22.
Above prices are for shakes in place.

SEWER PIPE—

C.I. 6-in. to 24-in. B. & S. Class B and heavier, per ton ..... $99.
Vitrified, per foot:
Standard, 8-in. ..... $.
Standard, 12-in. ..... 1.
Standard, 24-in. ..... 5.
Clay Drain Pipe, per 1,000 L.F. in carload lots:
Standard, 6-in. ..... $211.
Standard, 8-in. ..... 352.

SHEET METAL—

Windows—Metal, $2.50 a sq. ft.
Fire doors (average), including hardwa $2.80 per sq. ft., size 12'x12'. $3.75 p sq. ft., size 3'x6'.

SKYLIGHTS—(not glazed)

Copper, $1.25 sq. ft. (flat).
Galvanized iron, 65c sq. ft. (flat).
Vented hip skylights, $1.50 sq. ft.

STEEL—STRUCTURAL—

$220 per ton erected, when out of mi
$270 per ton erected, when out of stoc

STEEL REINFORCING—

$200.00 per ton, in place.

¼-in. Rd. (Less than 1 ton)	$7.
⅜-in. Rd. (Less than 1 ton)	6.
½-in. Rd. (Less than 1 ton)	6.
⅝-in. Rd. (Less than 1 ton)	6.
¾-in. & ⅞-in. Rd. (Less than 1 ton)	6.
1-in. & up (Less than 1 ton)	6.

1 ton to 5 tons, deduct 15c.

STORE FRONTS (None available).

TILE—

Ceramic Tile Floors—Commercial $1.15 $1.50.
Cove Base—$1.35 per lin. ft.
Tile Wainscot & Floors—Residential $1.50 $1.75.
Tile Wainscot—Commercial $1.35 to $1.50.
Asphalt Tile Floor ⅛" ⅟₁₆" $ .18 - $ .35 sq. y
Light shades slightly higher
Cork Tile—$ .70 per sq. ft.
Mosaic Floors—See dealers.
Lino-Tile—$1.00 per sq. ft
Rubber Tile—$ .55 to $ .75 per sq. ft.

Wall Tile—Glazed Structural Units—

2 x 6 x 12	$1.50 sq.
4 x 6 x 12	1.75 sq.
4 x 6 x 12 Double Faced Partition	2.10 sq.
For colored glaze, add	.25 sq.

Building Tile—

8x5½x12-inches, per M	$139
6x5½x12-inches, per M	105
4x5½x12-inches, per M	84.

Hollow Tile—

12x12x2-inches, per M	$116.
12x12x3-inches, per M	124.
12x12x4-inches, per M	140.
12x12x6-inches, per M	186.

F.O.B. Plant

VENETIAN BLINDS—

75c per square foot and up. Installati extra.

WINDOWS—STEEL—INDUSTRIAL

Cost depends on design and quality required.

ARCHITECT AND ENGINEER
ESTIMATOR'S DIRECTORY
Building And Construction Materials

EXPLANATION—Building and construction materials are shown in major classified groups for general identification purposes with names and addresses of suppliers of materials listed in detail under group classification where name first appears—main offices are shown first, with branch or district offices following. The numeral appearing in listings refers to the major group classification where complete data on the dealer, or representative, may be found.

ARCHITECTURAL VENEER (a)

Ceramic Veneer

PACIFIC CLAY PRODUCTS
San Francisco: 605 Market St., GA 1-3970
Los Angeles, Portland, Salt Lake City
GLADDING, McBEAN & CO. *(1)

Porcelain Veneer

PORCELAIN ENAMEL PUBLICITY BUREAU
(Dept. AE-450)
Room 601, Franklin Building, Oakland 12, California
P. O. Box 186, East Pasadena Station, Pasadena 8, California

Granite Veneer

VERMONT MARBLE COMPANY
San Francisco: 525 Market Street, SU 1-6747

Marble Veneer

VERMONT MARBLE COMPANY
San Francisco: 525 Market Street, SU 1-6747

BRICKWORK (1)

Face Brick

GLADDING, McBEAN & CO.
San Francisco: Harrison at 9th Sts., UN 1-7400
Los Angeles: 2901 Los Feliz Blvd., OL 2121
Offices at Portland, Seattle, Spokane

KRAFTILE
Niles, California, Niles 3611
San Francisco 5: 50 Hawthorne St., DO 2-3780
Los Angeles 13: 406 South Main St., MU 7241

REMILLARD-DANDINI CO.
San Francisco: 400 Montgomery St., EX 2-4988

BUILDING PAPER & FELTS (2)

SISALKRAFT COMPANY
San Francisco: 55 New Montgomery St., EX 2-3066
Chicago, Ill.: 205 West Wacker Drive

ANGIER PACIFIC CORP.
San Francisco 5: 55 New Montgomery St., DO 2-4416
Los Angeles: 7424 Sunset Boulevard

BUILDING HARDWARE (3)

THE STANLEY WORKS
San Francisco: Monadnock Bldg., YU 6-5914
New Britain, Conn.

CEMENT (c)

PACIFIC PORTLAND CEMENT
San Francisco: 417 Montgomery St., GA 1-4100

CONCRETE AGGREGATES (4)

Lightweight Aggregates

AMERICAN PERLITE CORP.
Richmond, Calif.: 26th & B Sts.—Yard 2, RI 4307

FIRE ESCAPES (5)

SOULE STEEL
San Francisco: 1750 Army St., VA 4-4141
Los Angeles, Calif.—LA 0911
Portland, Ore.—BE 5155
Seattle, Wash.—SE 3010

MICHAEL & PFEFFER IRON WORKS, INC.
San Francisco 3: Tenth & Harrison Sts., MA 1-5966

FLOORS (6)

Hardwood Flooring

HOGAN LUMBER COMPANY
Oakland: Second and Alice Sts., GL 1-6861

E. K. WOOD LUMBER CO.
Los Angeles: 4710 S. Alameda St., JE 3111
Oakland: 727 Kennedy St., KE 4-8466
Portland: 827 Terminal Sales Building

GLASS (7)

W. P. FULLER COMPANY
San Francisco: 301 Mission St., EX 2-7151
Los Angeles, Calif.
Portland, Oregon

HEATING (8)

HENDERSON FURNACE & MFG. CO.
Sebastopol, Calif.

S. T. JOHNSON CO.
Oakland 8: 940 Arlington Ave., OL 2-6000
San Francisco: 585 Potrero Ave., MA 1-2757
Philadelphia 8, Pa.: 401 No. Broad St.

SCOTT COMPANY
San Francisco: 243 Minna St., YU 2-0400
Oakland: 113 - 10th St., GL 1-1937
San Jose, Calif.
Los Angeles, Calif.

THOMAS B. HUNTER (Designer)
San Francisco: 41 Sutter St., GA 1-1164

INSULATION AND WALLBOARD (9)

LUMBER MANUFACTURING CO.
San Francisco: 225 Industrial Ave., JU 7-1760

SISALKRAFT COMPANY *(2)

WESTERN ASBESTOS COMPANY
San Francisco: 675 Townsend St., KL 2-3868
Oakland: 251 Fifth Avenue, GL 1-2345
Sacramento: 1224 I Street, 2-8993
Stockton: 1120 E. Weber Ave., 4-1863
Fresno: 1837 Merced Street, 3-3277
San Jose: 201 So. Market St., BA 4359-J

IRON—Ornamental (10)

MICHEL & PFEFFER IRON WORKS, INC. *(5)

LIGHTING FIXTURES (11)

SMOOT-HOLMAN COMPANY
Inglewood, Calif., OR 8-1217
San Francisco: 55 Mississippi St., MA 1-8474

LUMBER (12)

HOGAN LUMBER COMPANY *(6)

LUMBER MANUFACTURING CO. *(9)

E. K. WOOD LUMBER CO *(6)

Shingles

SIDEWALL LUMBER COMPANY
San Francisco 24: 1995 Oakdale Ave., AT 2-8112

MARBLE (13)

VERMONT MARBLE COMPANY
San Francisco: 525 Market St., SU 1-6747
Los Angeles 4: 3522 Council St., FA 7834

METAL LATH EXPANDED (14)

FORDERER CORNICE WORKS
San Francisco: 269 Potrero Ave., HE 1-4100

SOULE STEEL *(5)

MILLWORK (15)

PACIFIC MANUFACTURING COMPANY
San Francisco: 16 Beale St., GA 1-7755
Santa Clara: 2610 The Alameda, SC 607
Los Angeles: 6820 McKinley Ave., TH 4196

MULLEN MANUFACTURING COMPANY
San Francisco: 60-80 Rausch St., UN 1-5815

LUMBER MANUFACTURING COMPANY *(9)

PAINTING (16)

Paint

W. P. FULLER COMPANY *(7)

PLASTER (17)

Exteriors

PACIFIC PORTLAND CEMENT COMPANY*(4)

Interiors—Metal Lath & Trim

FORDERER CORNICE WORKS *(14)

PLASTIC CEMENT (f)

PACIFIC PORTLAND CEMENT CO.
San Francisco: 417 Montgomery St., GA 1-4100

PLUMBING (18)

THE SCOTT COMPANY *(8)

THE HALSEY TAYLOR COMPANY
Redlands, Calif.
Warren, Ohio

HAWS DRINKING FAUCET COMPANY
Berkeley 10: 1435 Fourth St., LA 5-3341

CONTINENTAL WATER HEATER COMPANY
Los Angeles 31: 1801 Pasadena Ave., CA 6178

SIMONDS MACHINERY COMPANY
San Francisco: 816 Folsom St., DO 2-6794
Los Angeles: 455 East 4th St., MU 8322

SECURITY VALVE COMPANY
Los Angeles 31: 410 San Fernando Rd., CA 6191

SEWER PIPE (19)

GLADDING, McBEAN & CO. *(1)

PACIFIC CLAY PRODUCTS
San Francisco: 605 Market St., GA 1-3970
Los Angeles, Portland, Salt Lake City

SHEET METAL (20)
Windows
DETROIT STEEL PRODUCTS COMPANY
Oakland 8: 1310 - 63rd St., OL 2-8826
San Francisco: Russ Building, DO 2-0B90
MICHEL & PFEFFER IRON WORKS, INC. *(5)
SOULE STEEL COMPANY *(5)
Fire Doors
DETROIT STEEL PRODUCTS COMPANY
Skylights
DETROIT STEEL PRODUCTS COMPANY

STEEL—STRUCTURAL (21)
COLUMBIA STEEL CO.
San Francisco: Russ Bldg., SU 1-2500
Los Angeles: 2087 E. Slauson, LA 1171
Portland: 2345 N. W. Nicolai, BE 7261
Seattle: 1331 3rd Ave. Bldg., MA 1972
Salt Lake City: Walker Bank Bldg., SL 3-6733
HERRICK IRON WORKS
Oakland: 18th & Campbell Sts., GL 1-1767
JUDSON PACIFIC-MURPHY CORP.
Emeryville: 4300 Eastshore Highway, OL 3-1717
REPUBLIC STEEL CORP.
San Francisco: 116 N. Montgomery St., GA 1-0977
Los Angeles: Edison Building
Seattle: White-Henry-Stuart Building
Salt Lake City: Walker Bank Building
Denver: Continental Oil Building
KRAFTILE COMPANY *(1)
SAN JOSE STEEL COMPANY
San Jose: 195 North Thirtieth St., CO 4184

STEEL—REINFORCING (22)
REPUBLIC STEEL CORP. *(21)
HERRICK IORN WORKS *(21)
SAN JOSE STEEL CO. *(21)
COLUMBIA STEEL CO. *(21)

TILE (23)
GLADDING, McBEAN & CO. *(1)
KRAFTILE COMPANY *(1)
PACIFIC CLAY PRODUCTS
San Francisco: 605 Market St., GA 1-3970
Los Angeles, Portland, Salt Lake City

TIMBER—REINFORCING (b)
Trusses
WEYERHAEUSER SALES CO.
Tacoma, Wash.
St. Paul, Minn.
Newark, N. J.
Treated Timber
J. H. BAXTER CO.
San Francisco 4: 333 Montgomery St., DO 2-38B3
Los Angeles 13: 601 West Fifth St., MI 6294

WALL TILE (24)
GLADDING, McBEAN & CO. *(1)
KRAFTILE COMPANY *(1)

WINDOWS STEEL (2S)
DETROIT STEEL PRODUCTS CO. *(20)
MICHEL & PFEFFER IRON WORKS, INC.*
SOULE STEEL COMPANY *(5)

GENERAL CONTRACTORS (26)
DINWIDDIE CONSTRUCTION COMPANY
San Francisco: Crocker Building, YU 6-2718
CLINTON CONSTRUCTION COMPANY
San Francisco: 923 Folsom St., SU 1-3440
MATTOCK CONSTRUCTION COMPANY
San Francisco: 604 Mission St., GA 1-5516
STOLTE, INC.
Oakland: 8451 San Leandro Blvd., TR 2-1064
SWINERTON & WALBERG COMPANY
San Francisco: 225 Bush St., GA 1-2980
Oakland: 1723 Webster St., HI 4-4322
Los Angeles, Sacramento, Denver
P. J. WALKER COMPANY
San Francisco: 391 Sutter St., YU 6-5916
Los Angeles: 3920 Whiteside St., AN 9-8567

TESTING LABORATORIES (ENGINEERS & CHEMISTS) (27)
ABBOT A. HANKS, INC.
San Francisco: 624 Sacramento St., GA 1-16
ROBERT W. HUNT COMPANY
San Francisco: 251 Kearny St., EX 2-4634
Los Angeles: 3050 E. Slauson, JE 9131
Chicago, New York, Pittsburgh
PITTSBURGH TESTING LABORATORY
San Francisco: 651 Howard St., EX 2-1747

BUILDING TRADES WAGE (JOB SITES) NORTHERN, CENTRAL AND SOUTHERN CALIFORNIA

ATTENTION: The following are the PREVAILING hourly rates of compensation being paid and in effect by employers by agreement between employees and their union; or as recognized and determined by the U. S. Department of Labor. (Revised to Sept. 1, 1949.)

CRAFT	San Francisco	Alameda	Contra Costa	Fresno	Sacramento	Santa Clara	Solano	Stockton	Los Angeles	San Bernardino	San Diego	Santa Barbara	Kern
ASBESTOS WORKERS	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.25	$2.25	$2.25	$2.25	$2.25
BRICKLAYERS	3.00*	3.00	3.00	2.50	3.00	3.00	3.00	2.05*	2.625	2.625	2.625	2.625	2.625
BRICKLAYERS, HODCARRIERS	2.25	2.25	2.25	2.00	2.00	1.75	2.25	1.60*	1.75	1.75	1.75	1.75	1.75
CARPENTERS	2.16	2.16	2.175	2.175	2.175	2.175	2.175	2.175	2.20	2.20	2.20	2.20	2.20
CEMENT FINISHERS	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.28	2.28	2.28	2.28	2.28
ELECTRICIANS	2.50	2.50	2.50	2.25	2.50	2.50	2.40	2.40	2.50	2.50	2.50	2.50	2.50
ELEVATOR CONSTRUCTORS	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.25	2.25	2.25	2.25	2.25
ENGINEERS: MATERIAL HOIST	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	1.9875	1.9875	1.9875	1.9875	1.9875
PILE DRIVER	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.32	2.32	2.32	2.32	2.32
STRUCTURAL STEEL	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.30	2.30	2.2375	2.30	2.30
GLAZIERS	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.96
IRONWORKERS: ORNAMENTAL	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.255	2.255	2.255	2.255	2.255
REINF. RODMEN	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.28	2.28	2.28	2.28	2.28
STRUCTURAL	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.30	2.30	2.2375	2.30	2.30
LABORERS: BUILDING	1.55	1.55	1.55	1.45	1.55	1.45	1.55	1.55	1.65	1.65	1.65	1.65	1.65
CONCRETE	1.55	1.55	1.55	1.45	1.55	1.45	1.55	1.55	1.65	1.65	1.65	1.65	1.65
LATHERS	2.8125	2.8125	2.8125	2.8125	2.00*	2.50*	2.8125	2.8125	2.50	2.50	2.50	2.50	2.50
MARBLE SETTERS	2.375	2.375	2.375	2.375	2.375	2.375	2.375	2.375	2.25	2.25	2.25	2.25	2.25
MOSAIC & TERRAZZO	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.40	2.40	2.20	2.40	2.40
PAINTERS	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.22	2.22	2.22	2.22	2.22
PILEDRIVERS	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.33	2.33	2.33	2.33	2.33
PLASTERERS	2.8125	2.50*	2.50*	2.25*	2.25*	2.50*	2.50*	2.8125	2.50	2.75	2.50	2.50	2.50
PLASTERERS, HODCARRIERS	2.50	2.25*	2.25*	1.775*	2.00*	2.00*	2.25*	2.16	2.15	2.25	2.30	2.00	2.00
PLUMBERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
ROOFERS	2.25	2.25	2.25	1.875	2.00	2.00	2.16	2.25	2.25	2.00	1.90	2.00	2.00
SHEET METAL WORKERS	2.25	2.25	2.25	2.125	2.30	2.40	2.125	2.125	2.15	2.15	2.175	2.00	2.15
SPRINKLER FITTERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.25	2.25	2.25	2.25	2.25
STEAMFITTERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
STONESETTERS (MASONS)	3.00	2.8125	2.8125	2.25*	2.8125	2.8125	2.8125	2.05*	1.50	1.50	1.50	2.625	1.715
TILESETTERS	2.675	2.675	2.675	2.15	2.00	2.675	2.675	2.4375	2.50	2.50	2.20	2.50	2.25

.* 6 Hour Day. ** 7 Hour Day.

Prepared and compiled by:
CENTRAL CALIFORNIA CHAPTER, ASSOCIATED GENERAL CONTRACTORS OF AMERICA, with the assistance and cooperation of secretaries of General Contractors Associations and Builders Exchanges of Northern California; and the above information for southern California is furnished by the Labor Relations Department of the Southern California Chapter, ASSOCIATED GENERAL CONTRACTORS OF AMERICA.

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ADVERTISERS wishing to sell building materials and products, GET THE BEST RESULTS from regular advertising schedules in ARCHITECT & ENGINEER magazine. Write for complete information, including rates, circulation, etc., 68 Post Street, San Francisco.

FLOOR COVERINGS for industrial, commercial, and residential construction. Complete lines, one of the oldest, best established organizations in the Sacramento Valley. LATTIN'S, INC., 1519 Alhambra Blvd., Sacramento.

COLORS IMPROVE HEALTH

(From Page 9)

mentation was used to torture the prisoners in a devilish psychological way.

Colors affect the human mood in different directions. Red is called a stimulating color which excites and increases the working power of the brain. Yellow is another stimulating color; it helps to energize the brain. Green possesses cooling effects, helps in abating excitement. Brown is restful and warming, but depressing if used alone. Its combination with orange, yellow and gold has good effects. Purple and mauve are soothing and conducive to sleep. Black is useful for toning strong colors. White is cheery and stimulating when used with red, yellow or orange; used alone, it is rather cold.

Colors Increase Industrial Production

Machine coloring in light buff and light grey paint increase safety and productivity in factories, according to Dr. Graubart and Dr. Scholermann, two optometrists — thereby backing up research work of paint chemists who had reached the same conclusion in their development of "highlight painting" in industry. The experts found that scientific color treatment of factory machinery reduced operation time, insured fast, accurate vision, cut errors, helped to spot flaws and increased production.

Ronald J. Cooke reported experience in a large plant where new workers were given the task of unloading boxes of rivets from freight cars. The boxes were painted black and the men took frequent rests, slowing up the unloading time. A color expert suggested to paint the boxes light green. Immediately the men began taking fewer rest periods, and the empty freight cars moved out of the yard in less time. Painting the boxes a light color had created an optical illusion which made the workmen less conscious of fatigue.

The management of a factory experienced an 80 per cent increase in output by changing the color of the assembly tables from which girl workers assembled tiny hard-to-see parts. The tables were painted a color complementary to the color of the parts which made the parts easily visible, and production increased noticeably.

The choice of colors is important for production due the light reflection of colored parts. The percentage of light reflected is: for white 82-89%; cream 73-78%; ivory 62-80%; buff 61-75%; aluminum 65%; light green 49-66%; dark green 11-25%; yellow 48-75%; light wood (tan) 42-49%; gray 36-61%; light blue 34-61%; pink 30-46%; dark tan 17-63%; brown wood 17-29%; dark red 13-30%.

Properly chosen paint for walls, ceilings and floors not only helps to conserve light, Graubart and Scholermann point out, but also reflects and diffuses it, eliminating objectionable sharp contrast. Thus, the right paint is a most important partner of light. As a general rule, they say, ceilings should reflect 75% of the light that strikes them in order to provide adequate lighting on the working plane. Other higher values are desirable. Painted walls directly in line with a worker's vision should have a light-reflection factor of 50% to 60% to provide proper and restful conditions for the operators' eyes. There is no doubt that colors on buildings and rooms are of utmost influence on the mood and the efficiency of every human being who comes in touch with them.

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CONSTRUCTION CONTRACTS AWARDED AND MISCELLANEOUS PERSONNEL DATA

HEATING PLANT & BOILER ROOM BUILDING, Rio Vista, Solano County. Rio Vista High School District, owner; $49,313. ARCHITECT: Chas. F. Dean, Sacramento. Reinforced concrete construction. GENERAL CONTRACTOR: Waterbury & Chapek, Sacramento.

STORE & OFFICE BUILDING, Menlo Park, San Mateo County. Victor Greisser, owner; $42,777. ARCHITECT: Wm. Simrell, Jr., Palo Alto. 1 story, 70 x 70, concrete block and frame construction. GENERAL CONTRACTOR: Wells P. Goodenough, Palo Alto.

GRAMMAR SCHOOL, Planada, Merced County. Planada Elementary School District, owner; $209,900. ARCHITECT: Horn & Mortland, Fresno. GENERAL CONTRACTOR: Spears Construction Co., Modesto.

SAFEWAY MARKET BUILDING, Arvin, Kern County. Bramwell Construction Company, owner; $150,000. ARCHITECT: Robert N. Eddy, Bakersfield. GENERAL CONTRACTOR: Malvern & Nichols, Los Angeles.

SAFEWAY MARKET BUILDING, East Bakersfield, Kern County. Bramwell Construction Co., owner; $200,000. ARCHITECT: Robert N. Eddy, Bakersfield. GENERAL CONTRACTOR: Hugh Lockhart, Los Angeles.

RECREATION BUILDING, San Francisco. Protestant Orphanage, owner; $60,000. ARCHITECT: Albert F. Roller, San Francisco. 1 story, frame construction. GENERAL CONTRACTOR: Swinerton & Walberg, San Francisco.

FACTORY BUILDING, San Francisco. Standard Brands, Inc., owner; $100,000. ENGINEER: Ellison & King, San Francisco. 2 story, reinforced concrete construction. GENERAL CONTRACTOR: Barrett & Hilp, San Francisco.

FACTORY BUILDING, Santa Clara, Santa Clara County. Technical Coating Co., owner; $85,000. ARCHITECT: L. F. Richards, Santa Clara. 1 and 2 story, brick frame construction. GENERAL CONTRACTOR: Pasetta Construction Co., Santa Clara.

TRUCK TERMINAL BUILDING, Reno, Nevada. Oregon - Nevada - California, Fast Freight, Inc., owner; $49,950. ARCHITECT: E. Keith, Lackhard, Reno. Reinforced concrete and structural steel loading dock and canopy. GENERAL CONTRACTOR: Walker Boudwin Construction Co., Reno.

SAFEWAY MARKET BUILDING, Vallejo, Solano County. Bramwell Construction Co., owner; $165,000. ARCHITECT: Beals, Bidwell & Macky, Oakland. 100 x 150, concrete block, brick veneer, wood roof. GENERAL CONTRACTOR: Intra-State Bldrs., Berkeley.

MARKET BUILDING & STORE, Bakersfield, Kern County. C. E. Houchin, owner; $178,000. ARCHITECT: Stilos Clements, Los Angeles, Market, 150 x 150; store 60 x 125, concrete block construction, wood roof, steel sash plate glass and air conditioning.

SUNSET GRAMMAR SCHOOL, Arvin, Kern County. Vineland Elementary School District, owner. 5 classrooms, administration, home economics, shop, etc., $210,000. ARCHITECTS: Wright, Metcalf & Parsons, Bakersfield. Frame and stucco construction. GENERAL CONTRACTOR: Willard K. Michael, Bakersfield.

HIGH SCHOOL ADDITION, Hamilton City, Glenn County. Hamilton Union High School District, owner. Gymnasium, $117,703. ARCHITECT: Koblick & Fisher, Sacramento. Structural steel frame, frame and stucco construction. GENERAL CONTRACTOR: W. E. Frye, Grass Valley.

FACTORY BUILDING, San Francisco. White Stag Mfg. Co., owner. $225,000. ARCHITECT: Ward & Bolles, San Francisco. STRUCTURAL ENGINEER: Thos. F. Chace, San Francisco. Pre-cast tilt-up concrete construction. GENERAL CONTRACTOR: E. S. McKittrick Co., Oakland.

DYER KELLY GRAMMAR SCHOOL ADDN., Sacramento, Sacramento County. Arcade Elementary School District, owner. 5 classrooms, multi-purpose room, toilet rooms, $202,802. ARCHITECT: Gordon Stafford, Sacramento. Frame and stucco construction. GENERAL CONTRACTOR: Guth & Schmidt, Sacramento.

NEW SIR FRANCIS DRAKE HIGH SCHOOL, San Anselmo, Marin County. Tamalpais Union High School, owner. 23 classrooms, 2 domestic science units, 3 bus units, 4 science units, library, administration, 5 shop units, 2 art units, music room, cafeteria, 2 gyms, 2 locker rooms, $1,803,708. STRUCTURAL ENGINEER: Mark Falk. Reinforced concrete construction. GENERAL CONTRACTOR: James I. Barnes Construction Co., San Francisco.

APARTMENT BUILDING, San Francisco. Weiner Bros., owner. 6 apartments, $43,735. ARCHITECT: Bruce E. Heiser, San Francisco. 2 story, frame construction. GENERAL CONTRACTOR: M. J. King, Inc., San Francisco.

GYMNASIUM BUILDING, Bakersfield, Kern County. Lakeside Union Elementary School, owner. $319,000. ARCHITECT: Frank Wynkoop & Assoc., Bakersfield. 15,000 sq. ft. reinforced concrete, structural steel roof trusses, steel sash, radiant heating, air conditioning, maple and asphalt tile floors. GENERAL CONTRACTOR: Ashby & Opperman, Bakersfield.

GRAMMAR SCHOOL ADDITION, Biggs, Butte County. Biggs Elementary School District, owner. 3 classrooms. $65,427. ARCHITECT: Chas. F. Dean, Sacramento. GENERAL CONTRACTOR: Fife & Stoddard, Gridley.

CHURCH AND SUNDAY SCHOOL, San Mateo, San Mateo County. First Christian Church, owner. $48,24. ARCHITECT: Alfred W. Johnson, San Francisco. Frame and stucco construction. GENERAL CONTRACTOR: Joel Johnson & Son, San Francisco.

CHURCH, SUNDAY SCHOOL AND RECREATION BUILDING, Santa Rosa, Sonoma County. Methodist Church, owner. $100,000. ARCHITECT: John B. Anthony, Santa Rosa. Some structural steel, frame construction. SUPERINTENDENT OF CONSTRUCTION: Roy B. Swift.

TWO NEW GRAMMAR SCHOOLS, Cupertino, Santa Clara County. Cupertino Union Elementary School District, owner. 6 classrooms and toilet rooms, $229,640. ARCHITECT: Birge M. Clark and Walter Stromquist, Palo Alto. Frame and stucco construction. GENERAL CONTRACTOR: W. R. Kalsched, San Jose.

NEW JEFFERSON GRAMMAR SCHOOL, Lindsay, Tulare County. Lindsay Unified School District, owner. 12 classrooms, offices and toilet rooms, $307,609. ARCHITECT: Frank Wynkoop & Assoc., Bakersfield. Frame and stucco construction, some structural steel, concrete floors, radiant heating, steel sash GENERAL CONTRACTOR: Flowers & Shirley, Tulare.

GRAMMAR SCHOOL ADDITION, Cottonwood, Shasta County. Cottonwood Elementary School District, owner. 3 classrooms, kindergarten, and toilet rooms. $111,437. ARCHITECT: Masten & Hurd, San Francisco. Frame construction. GENERAL CONTRACTOR: B & R Construction Co., San Francisco.

OFFICE BUILDING ADDITION, Sacramento, Sacramento County. Joe Cronin and Frank Cronin, owner. $82,000. ARCHITECT: Clifford N. Franklin, Sacramento. 2 story, 40x60, reinforced concrete construction. GENERAL CONTRACTOR: Sacramento Construction Co., Sacramento.

TELEPHONE EXCHANGE BUILDING, Susanville, Lassen County. Citizens Utility Co., owner. $102,500. ENGINEER: Headman, Ferfuson & Carollo, Berkeley. 1 story and basement, 50x80, reinforced concrete and block and frame construction. GENERAL CONTRACTOR: O'Connor Bros., Red Bluff.

TWO GRAMMAR SCHOOLS, Palo Alto, Santa Clara County. Palo Alto Board of Education, owner. 12 classrooms, 2 kindergartens, administration, toilet room, 4 classrooms, 2 kindergartens, administration, toilet room, $509,500. ARCHITECT: Birge M. Clark and Walter Stromquist, Palo Alto. GENERAL CONTRACTOR: Earl W. Heple, San Jose.

SAFEWAY MARKET BUILDING, Oakland, Alameda County. Bramwell Construction Company, owner. $114,200. ENGINEER: Matt Lehmann, Redwood City. 1 story, 90x175, concrete block and frame construction, brick and plate glass front, zuorite tower. GENERAL CONTRACTOR: E. S. McKittrick Co., Oakland.

CITY OFFICE BUILDING, Walnut Creek, Contra Costa County. City of Walnut Creek, owner. $57,700. ARCHITECT: Leonard H. Ford, Walnut Creek. 1 story, concrete block and frame construction, tile roof. GENERAL CONTRACTOR: David Zuckermann, Walnut Creek.

GYMNASIUM BUILDING, Clarksburg, Yolo County. Clarksburg Elementary High School District, owner. $236,000. ARCHITECT: Harry J. Devine, Sacramento. Reinforced concrete, structural steel roof trusses, wood roof. GENERAL CONTRACTOR: Continental Construction Co.

AIR FORCE HOUSING PROJECT, Fairfield Solano County. National Engineering Development Co., owner. 980 housing units, $9,000,000. ARCHITECT: W. D. Peugh, San Francisco. Frame and stucco construction, 58 1-bedroom multi-family units, 296 2-bedroom multi-family units, 234 3-bedroom multi-family units, for officers 40 1-bedroom duplexes, 192 2-bedroom single units and

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156 3-bedroom single units and 4 4-bedroom units. GENERAL CONTRACTOR: MacDonald, Young & Nelson and Morrison & Knudsen Co., San Francisco.

OFFICE BUILDING, Oakland, Alameda County. Alameda County East Bay Title Ins. Co., Oakland. $400,000. STRUCTURAL ENGINEER: R. H. Cooley, Oakland. 2 story and basement, 70x150, structural steel frame, masonry walls, steel floor deck, steel stud and plaster partitions, marble, granite, plate glass front, 1 elevator, steel stairs. GENERAL CONTRACTOR: John J. Moore Co., Oakland.

WAREHOUSE BUILDING, San Francisco. Max Gruenberg, owner. $500,000. ARCHITECT: Ward & Bolles, San Francisco. ENGINEER: Thos. F. Chace, San Francisco. 1 story, 82,000 sq. ft. reinforced concrete and frame construction. GENERAL CONTRACTOR: Dinwiddie Construction Co., San Francisco.

NEW HOSPITAL BUILDING, Modesto, Stanislaus County. County of Stanislaus, owner. $1,111,086. ARCHITECT: Russell DeLappe, Berkeley. 3 story and basement, reinforced concrete construction, 2 elevators, steel sosh, asphalt tile, terrazzo and tile floors, administration, dining room, kitchen, surgery, X-Ray labs, and security wards. GENERAL CONTRACTOR: M. A. Little, San Francisco.

WAREHOUSE AND OFFICE BUILDING. John P. Lynch, owner. $125,000. PLANS BY: The Austin Co., Oakland. 1 story and mezzanine, 74x235, reinforced concrete construction, pile foundation, wood roof. GENERAL CONTRACTOR: Austin Co., Oakland.

DEER PARK GRAMMAR SCHOOL, Fairfax, Morin County. Fairfax Elementary School District, owner. 8 classrooms, offices, toilet room, $159,814. ARCHITECT: John Lydon Reid, San Francisco. Frame and stucco construction. GENERAL CONTRACTOR: Herbert A. Crocker Co., San Rafael.

HOSPITAL BUILDING, Truckee, Nevada County. Tahoe Forest Hospital District, owner. 12 beds. $286,255. ARCHITECT: Geo. C. Sellon, Sacramento. 1-story, reinforced concrete construction. GENERAL CONTRACTOR: John C. Schreck & Son, Sacramento.

TWO GRAMMAR SCHOOLS, Berkeley, Alameda County. Berkeley Board of Education, owner. 19 classrooms, 2 kindergartens, offices, cafeteria, auditorium and toilet room; 14 classrooms, offices, cafeteria, auditorium and toilet room, $1,564,000. ARCHITECT: Kump & Associates, San Francisco. 2 story, reinforced concrete construction, some structural steel, steel sash, acoustical asphalt lite floors. GENERAL CONTRACTOR: Moore & Roberts, San Francisco.

NEW GRAMMAR SCHOOL BUILDING, Livermore, Alameda County. Livermore Elementary School District, owner. 12 classrooms, 2 kindergartens, offices, library and toilet room. $366,868. ARCHITECT: Jack Buchter, Orinda. Structural steel frame, frame and stucco construction. GENERAL CONTRACTOR: Central State Construction Co., San Francisco.

NEW HOSPITAL BUILDING, Modesto, Stanislaus County. County of Stanislaus, owner. $1,166,962. ARCHITECT: Russell DeLappe, Berkeley. 3 story and basement, reinforced concrete construction, 2 elevators, steel sash, asphalt tile, terrazzo and tile floors, administration, dining room, kitchen, surgery, X-ray labs and security wards. GENERAL CONTRACTOR: M. A. Little, San Francisco.

NEW MEADOW HEIGHTS SCHOOL, San Mateo, San Mateo County. San Mateo Elementary School District, owner. 6 classrooms, 2 kindergartens, administration and toilet room. STRUCTURAL ENGINEER: Mark Falk, San Francisco. Structural steel frame and frame and stucco construction. GENERAL CONTRACTOR: Wilfred H. May, Belmont.

OFFICE AND WAREHOUSE, North Sacramento, Sacramento County. Kraft Foods Co., owner. $145,253. ENGINEER: Kaj Tneill, San Francisco. 1 story, reinforced concrete and structural steel construction. GENERAL CONTRACTOR: Erickson Construction Co., North Sacramento.

MOTEL BUILDINGS, Turlock, Stanislaus County. Phillip Paul, owner. $150,000. ARCHITECT: G. N. Hilburn, Modesto. Concrete block and frame construction, tile roof.

GRAMMAR SCHOOL, Madera, Madera County. Eastin-Arcola Union Elementary School District, owner. 13 classrooms, office and toilet room, $329,125. ARCHITECT: Schwartz & Hyberg, Fresno. Frame and stucco construction, concrete floor composition, refrigeration, radiant heating. GENERAL CONTRACTOR: Harris Construction Co., Fresno.

BEVERLY HILLS SCHOOL ADDITION, Vallejo, Solano County. Vallejo Unified School District, owner. 6 classrooms, Kindergarten, toilet room. $144,311. ARCHITECT: Harry J. Devine, Sacramento. Frame and stucco construction. GENERAL CONTRACTOR: Carl Recknagel, Vallejo.

STORE BUILDING, Bakersfield, Kern County. Ransom Henshaw, owner. $50,000. ARCHITECT: Harold Johnson, Los Angeles. Brick and reinforced concrete construction. GENERAL CONTRACTOR: Jackson Bros., Los Angeles.

MEMORIAL HOSPITAL, Salinas, Monterey County. Salinas Valley Memorial Hospital, owner. $2,000,000. ARCHITECT: Rob't Stanton, Carmel. 5 story, basement, reinforced concrete and structurol steel construction, steel or aluminum sash, 3 elevators, asphalt tile, terrazzo and linoleum floors. STRUCTURAL STEEL: Bethlehem Pacific Coast Steel Corp., Alameda.

NEW HIGH SCHOOL BUILDINGS, San Jose, Santa Clara County. San Jose Board of Education, owner. 33 classrooms, laboratories, shops, physical education, facilities, administration unit, library, cafeteria, fine arts building, utilities, etc. $2,721,200. ARCHITECT: Kump & Assoc., San Francisco, 1 and 2 story, reinforced concrete construction, 15 buildings. GENERAL CONTRACTOR: Carl N. Swenson, Williams & Burrows, San Jose.

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IN THE NEWS

NEW EUREKA STORE

The Pacific States Savings and Loan Company of San Francisco will soon start construction of a $23,856 new store building in Eureka (California).

Of one-story, with basement and mezzanine, reinforced concrete and steel construction the building will be occupied by the J. C. Penney Company when completed.

CALIFORNIA VACATIONAL INSTITUTION

The State of California through the Division of Architecture recently called for bids for the construction of the main institutional group of buildings to be erected at Tracy and which will be operated as California's new Vocational Institution.

The first group of cell buildings and related service buildings will approximate 530,000 sq. ft. and will cost an estimated $7,419,747.

PRISON FARM ADDITION

The State of California proposes to build six new buildings at the Medium Security Prison at Soledad, comprising a cow and calf barn, bull barn with yards, calf shed, hay storage shed, and a slaughter house.

Cost of the improvements will run about $84,000.

CALIFORNIA YOUTH AUTHORITY

Plans have been announced for the construction of a new recreation center and clinic in Sacramento for the California Youth Authority, and $590,797 has been allocated for the project, according to the Division of Architecture.

STATE FUNDS ALLOCATED

The State of California has allocated $2,648,000 for the construction of six ward buildings, a commissary and feeding unit, and addition to the Sonoma State Home at Eldridge.

At the same time $678,866 was allocated for improvements to the Napa State Hopital at Imola.

DEPARTMENT STORE

Sears-Roebuck & Company recently announced the construction of a new $3,000,000 department store building in San Francisco at Masonic and Geary Blvd. The new store will contain 300,000 sq. ft. and will be of 3-story, reinforced concrete construction.

W. D. Peugh, San Francisco, is the architect.

SAN MATEO RESIDENCES

Building permits have been issued for the construction of 62 new homes in the San Mateo area, representing an investment of some $485,500.

Conway & Culligan will build 28 residences; the Newbridge Park Realty Company will build 23 homes, and Peninsula Home Builders will erect eleven.

HOSPITAL GRANT

The State of California and the Federal government recently approved a grant of $4,000,000 for the construction of a new hospital for the O'Connor Hospital in San Jose.

The new buildings will be five stories in height with a partial basement, and will be of reinforced concrete construction.

Frank T. Georgeson, San Francisco, is the architect, in conjunction with the firm of Maguolo & Quick, architects of St. Louis, Mo.

NEW GRAMMAR SCHOOL

The Benicia Unified School District of Benicia (California) announces plans for the construction of a new Grammar School containing 12 classrooms, kindergarten, offices, and toilet at an estimated cost of $180,000.

George C. Sellon, Sacramento, is the architect.

COVERED WHARF

The Santa Fe Land Improvement Company of Los Angeles announces it will construct a covered wharf on the Santa Fe Channel, near Richmond in Contra Costa county, at a cost of $250,000.

The building will be 55 ft. by 550 ft. with a frame and corrugated metal exterior.

S. F. AIRPORT IMPROVEMENTS

The Public Utilities Commission of the City and County of San Francisco has announced the installation of a new group of high intensity runway lights at the San Francisco Municipal Airport in South San Francisco.

Cost of the improvements has been set at $99,678.

MUSIC BUILDING

The Board of the Vallejo Unified School District, Vallejo, California, announces the construction of a new Music Department Building at the Vallejo Junior High School at an estimated cost of $90,000.

Jack Buchter, Orinda, is the architect.

NEW CITY HALL

The City of San Bruno (California) will soon build a new City Hall at an estimated cost of $175,000, according to a recent announcement. Wm. H. Rowe, San Francisco, has been selected Architect for the project.

TURKEY PLANT

The Merced Feed Company has announced plans for the construction of a $75,000 Turkey Processing Plant in the near future. The building will be 75 by 260 ft., 1 story.

Preston M. Jones, Oakland, has been selected as Engineer.

NEW RESIDENTIAL CONSTRUCTION

The Golden Gate Homes, Inc., of San Lorenza, are constructing thirty-four new homes in San Lorenzo at a cost of $7,000 each.

Carl C. Lassen, builder and Metro Homes, Inc., of Hayward, building twenty-eight and eleven new residences in Hayward at a cost of $6,500 each and $6,700 each respectively.

Conway and Culligan, San Mateo, are constructing forty-one new residences in San Mateo at a cost of $7,000 each.

J. Woody Mauk, San Francisco, is constructing forty new homes in the new Arbor Court sub-division in Sunnyvale, at $6,000 each.

The Sterling Building Company of Daly City are constructing forty-seven new homes in Sterling Terrace, San Mateo County near South San Francisco at a cost of $7,000 each.

In San Jose the McKeon Construction Company is building ninety-three new homes in nearby Santa Clara County at a cost of $8,000 each.

Jere Strizek of Sacramento, is building three hundred and fifty new homes near McClellan Field at a cost of $6,000 each.

The Greenwood Corporation is building seventy-seven new homes in San Lorenzo at a variation in cost of from $7,000 to $10,000 each.

Espinosa Homes, Inc., of Hayward are building seventy-five new homes near Hayward at a cost of $7,500 each.

STATE FUNDS ALLOCATED

The Division of Architecture of the State of California has allocated some $623,970 for the construction of new buildings at the State Veterans Home in Yountville, Napa County.

Anson Boyd, State Architect, made the announcement.

HOSPITAL PLAN APPROVED

Funds for the construction of a 100-bed Hospital Building in San Pablo by the West Contra Costa Hospital District have been approved by State and Federal authorities.

The proposed 4-story, reinforced concrete building will cost approximately $2,000,000.

D. D. Stone & Lou Mullay, San Francisco, are the architects.

GRAMMAR SCHOOL

The Rocklin Elementary School District will soon build a $246,000 Grammar School building consisting of 9 classrooms, offices, kindergarten, multi-purpose rooms and a toilet room.

Gordon Stafford, Sacramento, is the architect.

NOVITIATE HOUSE

The Sisters of the Holy Name of Los Gatos recently announced awarding of a contract to the Robert McCarthy Co., of San Francisco, for the construction of a Novitiate and Provincial House in Los Gatos.

Of one and two story, reinforced concrete and frame construction, the buildings will cost approximately $650,000.

H. A. Minton and Wilton Smith of San Francisco are the architects.

SAN FRANCISCO HOUSING

The Housing Authority for the City and County of San Francisco is planning the construction of a two-hundred and ninety-nine unit housing project in the North Beach area.

The housing will be built on a site on Columbus avenue between Bay and Mason, and will represent an investment of more than $2,367,500.

Architects for the project comprising thirteen three and four story dwellings containing 212,000 sq. ft. are Henry H. Gutterson and Ernest Born, San Francisco.

ELKS REMODEL

The San Mateo Elks Hall Association will spend some $200,000 in a remodel program for the Elks Lodge building in San Mateo, including the addition of a two story and basement addition to the present property.

Otto Hintermann of San Mateo is the architect.

BIDS REJECTED

The State of California through Anson Boyd, State Architect, has rejected a bid of $235,642 for the construction of a Vocational Training Center at the Veterans Home at Yountville. Approximate area of the proposed building was 19,600 sq. ft.

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SCHOOL BONDS VOTED

Voters of the Reed Elementary School District of Tiburon, Marin County, have approved the issuance of $155,000 for the construction of a new Grammar School building.

AIR FORCE HOUSING PROJECT ANNOUNCED

The national Engineering Company of Tampa, Florida, is building a 980 unit housing project for the U. S. Air Force near Fairfield in Solano County, California.

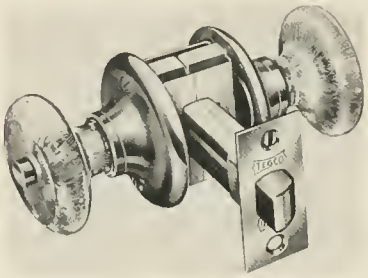
The project is being constructed under the Wherry Act and will cost about $9,000,000.

W. D. Peugh, San Francisco, is the architect.

BOND ELECTION

A bond election will be held on November 7 in Sacramento to determine whether some $4,400,000 in bonds shall be issued for the construction of a new sewage treatment plant for the Capitol city.

NEW TEGO SHURLOK LATCH AND LOCK SET



A complete new line of self-aligning, glass or metal knob unit sets has been announced by the Technical Glass Company of Los Angeles, known as "SHURLOK."

The set is radically different in shape and installation from the conventional glass knob set, and is usable on all doors; simple to install, has brass and steel latch, automatic alignment, pushbutton or turnbutton styles, lifetime cylinder, and a hidden "Lifesaver" emergency release.

Now available at all Tegco dealers.

FRATERNITY HOUSE

Sigma Alpha Epsilon Fraternity have completed drawings for the construction of a 1 and 2 story, brick and frame, Fraternity House in Reno.

Ed Parsons and Russell Mills of Reno are the architects.

BOWLING ALLEY AND STORE

The Brentwood Company of San Francisco have announced construction of a 16-alley, cocktail lounge, restaurant and store building in Brentwood Village in South San Francisco.

Cost of the project will approximate $300,000. Rudolph Igaz, Jr., San Francisco, is the architect.

ST. MARY'S HOSPITAL ADDITION AT RENO

A $600,000 addition to the St. Mary's Hospital at Reno, Nevada, is under way. Work will consist of a three story and basement, reinforced concrete and structural steel building containing forty-nine beds, a kitchen, and a laundry.

L. A. Ferris and G. Erskine have been named architects.

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HARBOR TERMINAL — Los Angeles

NOVEMBER 1950

How Ceramic Veneer Helps Move Merchandise

Architect: FRANKLIN & SIMPSON, FRESNO

Contractor: L. H. HANSEN & SONS, FRESNO

Colorful, inviting Ceramic Veneer on the storefront of Black's Market in Fresno, California, helps sell merchandise because it says, "Come on in and shop... the store is pleasant and clean, and the groceries are the best we can buy." This increasing of store traffic for your clients is only one of many important advantages of Ceramic Veneer. The picture shows how Ceramic Veneer can help make even small buildings beautiful, functional and modern at low cost. It is permanent... its kiln-fired colors and unusual textures last indefinitely. Maintenance is easy because Ceramic Veneer is so simple to keep sparkling clean... just soap and water does the trick. And it has less deadweight, thus eliminating heavy structural stressing. It's important to remember, too, that these advantages make Ceramic Veneer the ideal material for modernizing old buildings economically. Gladding, McBean & Co. Design Engineers are available to architects from planning stage through drafting and construction. A colorful Ceramic Veneer handbook containing installation data, complete details and specifications will be forwarded at your written request.

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• ARCHITECT AND ENGINEER

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★

COVER PICTURE:
MODERN HARBOR TERMINAL
Los Angeles, California

One of the world's most modern passenger-cargo marine terminals is being constructed in the Wilmington district, with new construction totaling more than $6,000,000.

The new 46-acre facility will be 2,350 ft. by 860 ft. and will include loading sheds and a 3,000 capacity auto parking area, and all transportation facilities.

The project will be completed early next year.

ARCHITECT & ENGINEER is indexed regularly by ENGINEERING INDEX, INC.

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. EDITORIAL NOTES .

WHERE THE MONEY GOES

Any substantial rise in real wages can be achieved only through an increase in productivity. At present, the national income is roughly divided into three parts. A little less than two-thirds of it goes to employees in the form of wages and salaries, about one-sixth of it goes to the self-employed, and somewhat more than one-sixth of it goes to the owners of property in the form of corporate profits, interest on indebtedness and rental income of real estate.

The two-thirds of the national income that takes the form of wages and salaries includes, of course, the compensation of executives and technical employees as well as the compensation of workers in the shop.

It is obvious from the above figures that the real wages of employees cannot be increased greatly by taking income away from either the self-employed or the owners of property. Consequently, any large rise in real wages can come only from more output per manhour.

If real wages are to rise as rapidly in the future as in the past, the output per manhour must rise no less rapidly than in the past. In order to double real wages in the next thirty years, output per manhour will need to rise at the rate of about 2.5 per cent per year on the average.

* * *

KEEP AN EYE ON THE VANE

Because of the obvious intent on the part of Russia to expand the ideology of Communism throughout the world, and particularly because of the unknown which may result from this nation's standing by its commitments of assistance to the Republic of South Korea, we may again be faced with a war-dictated economy . . . including rationing and price controls.

In such an event it will become more and more necessary for us to accept less and less from the personal standpoint. Our actions shall of necessity be dominated by regulation and control. Private enterprise, except that which contributes directly to the nation's major war objectives shall be of minor importance, with the result that need for housing, public schools, public buildings, and most new commercial and industrial construction will once again become acute.

And once again when the military needs are concluded and the peoples of the world settle back to lick their wounds and view the results of total modern warfare, there will be a tremendous need for all types of construction—housing well towards the top of the list.

There will be those who, as in the past, will claim private builders have failed to meet the needs of the public, and claims will be heard that the only solution is public housing. Fortunately the facts of the situation following World War II are still very fresh in the memory of many and the public and private industry as a whole would get a better shake in the wake of World War III if it comes.

* * *

NEW FEDERAL CURBS HURT

The new credit curbs imposed on home building and the new restrictions placed on a wide variety of construction has had an immediate effect in reducing the volume of new starts in the construction industry.

Certain it is that these curbs will eliminate a large portion of the public from the home buying and construction market.

In the vast majority of cases the purchase, or building of a home represents the largest single investment made in the lifetime of an average family. In many instances "the family" is never able to get together enough "cash" at any one time to make the down payment on a home under what have heretofore been considered normal times. Without the liberal aid of FHA and VA programs a vast number of today's home owners would be home renters.

* * *

A PERSONAL RESPONSIBILITY

To anyone who reviews the trends in our society during the last few decades it will be evident that professional men and women—as well as business and industry—must assume a larger set of responsibilities than ever before.

The obligation to produce goods and services is only part of that responsibility. In order to make possible a continued increase in the general standard of living everyone must achieve a steady increase in productivity. Everyone must also accept an increasing responsibility for the welfare of his fellow worker. Workers are interested not only in wages and working conditions but also in certain psychological satisfactions.

The largest degree of satisfaction will be experienced by those who feel they are making the most of their capacities. There is a great deal of potential initiative and ability in every individual that could be used to good advantage.

Therein lies the great challenge to the American enterprise system, therein lies the great opportunity for what we refer to so fondly as the American way of life.

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JOINT INFORMATION COMMITTEE

AMERICAN INSTITUTE OF ARCHITECTS and THE PRODUCERS COUNCIL, INC.

A SYSTEM FOR BETTER SPECIFICATIONS AND MANUFACTURING LITERATURE

Which Will Help the Architect, Contractor, Manufacturer and Trades

By F. BOURN HAYNE, A. I. E.

If expensive conventions, lots of talk, and resulting resolutions are ever going to accomplish anything, it is high time that wheels be made to turn faster to better the writing of Architectural specifications and the production of manufacturers' literature. In one respect, these two subjects are very closely allied, so it is necessary to discuss both together.

Some progress in these two fields was made at the recent annual convention of the California Council of Architects which met in the Yosemite valley last September. So much progress, in fact, that a streak of dim light may possibly be discernible in an otherwise dark and murky sky. Let me here quote RESOLUTION NUMBER 1 as adopted by the Convention of Architects:

"Arising from the panel discussion 'The Cold War of Product Information', at this annual convention of the California Council of Architects, and

WHEREAS: It has been ascertained that the present Form No. 184 of the National American Institute of Architects has not proved to be adequate or satisfactory, therefore be it,

RESOLVED: That the California Council of Architests shall have prepared a more clearly stated and specific set of requirements for the preparation and publication of product literature for the use of members of the Producers' Council and other manufacturers, to the end that advertising literature shall better serve the needs of the Architect and thereby better serve the purposes of the manufacturers, and that the California Council of Architects urge upon the National American Institute of Architects the immediate preparation of similar work in this direction."

Now that is a greatly needed, highly appropriate, and satisfactory resolution. It is too bad it was not made about ten years ago. Let's now hope and pray that nobody dies, that the Atomic bomb is kept in cold storage, and that something will be done.

Another panel discussion of note was concerned entirely with specifications which embodied three major objectives, (1) The placement of specified materials in the proper section of Specifications Code. This project relates to services performed, jurisdictional restrictions, and trade customs. (2) To classify materials as to types and qualities; to reduce and prevent if possible the substitution of inferior products. (3) To establish standards of installation and responsibility. Although this panel brought forth no convention resolution, the manufacturer, sub-contractor, general contractor and Architect who took part all had an opportunity of letting down their hair and stating their candid opinions, which gave marked evidence that there was big room for improvement on everybody's part, and that some sort of a specification system was greatly needed.

It is gratifying to know that the National A.I.A. is becoming somewhat aware of the appalling needs, and some satisfaction can be obtained by reading the recent report of the 1950 Building Product Literature Competition sponsored by the Institute and the Producers' Council. The report was written by the Chairman of the July of Awards, Lessing Whitford Williams, A.I.A., of New York.

TIME FOR THE A.I.A.

It is my belief that the time has come for the American Institute of Architects to make an all-out effort to assist the building industry keep tract of and up-to-date with the many technical phases and changes of today. This can be done if analytical heads are put together and a system worked out which is standard, flexible, and simple, so that the needs of all concerned will be served.

Like all Architects, I have quite a collection of manufacturers' advertisements and catalogues, as well as technical and semi-technical pamphlets and booklets of various institutions and associations, but what a lengthy piece of work it is to conjure out of this mass of written matter a few correct and simple sentences which can be embodied in specifications for some simple job. There seems to be no similarity at all between the flamboyant, expensive, laudatory mind of the advertising man who writes the average manufacturer's literature, the verbose, repetitious mind of the man who writes the booklets for the institutions and associations, and the precise, exacting, and meticulous mind of the architectural specification writer.

(To Be Continued)

NOTE: This news space is being contributed by ARCHITECT & ENGINEER Magazine to the JOINT INFORMATION COMMITTEE representing the Northern California Chapter of The American Institute of Architects and the Northern California Chapter of the Producer's Council, Inc., and is available to this Committee for the purpose of bringing to the attention of leaders within the Construction Industry various phases of the Architectural profession and building materials industry procedures for general consideration and comment. Your "ideas" and any suggestions for the better pooling of thoughts along these lines should be sent to "Joint Information Committee, c/o The Architect & Engineer, 68 Post Street, San Francisco," where they will be immediately forwarded to the proper committee members.

ROOFS—
Flat - Pitched - Gabled

Every year, more and more people are showing preference for the low pitch or even the flat type of roof, according to Southwest Research Institute's Revere Quality House Division. A roof is a matter of personal preference and home buyers often have strong likes and dislikes about the kind of roof under which they want to live.

Still, certain definite misconceptions about flat roofs continue to exist, John Hancock Callender, architectural consultant for the Institute, reports.

"Many people think a modern house is one with a flat roof. Actually flat roofs have been used in many of the architectural styles of the past. In America, many flat-roofed houses were built in the late eighteenth and early nineteenth centuries and still may be seen all through New England and New York, and as far West as Ohio."

People seem to think, too, that a flat roof cannot shed rain nor support a heavy load of snow—yet these flat-roofed houses built a hundred years and more ago are still successfully shedding the rains and supporing the heavy snows of the northern United States.

"People who express doubt about the rain-resistant ability of flat roofs, and their ability to support snow loads, apparently never think of the many flat-roofed stores, schools, hotels, office buildings, filling stations and other buildings. These buildings suffer less from roof leaks than the conventional pitched roof house."

There is one charge against flat-roofed houses that has a kernel of truth in it. If not insulated they can be hot in summer, especially if there is no ventilation provided to remove the heated air immediately below the roof. With adequate insulation and ventilation the flat-roofed house can be just as comfortable as the house with a sloping roof.

Flat roofs, as a matter of fact, are almost universally used in the hot countries of the world. The shelter under their wide, overhanging eaves provides a cool and pleasant place to sit in the evening, which is an important reason for their popularity. Then too, a flat roof makes it possible to keep a shallow film of water on the roof as insulation against the sun's heat.

(See Page 43)

NEW CREDIT RULES ON HOME BUYING ARE EXPLAINED

Hasty government action based on the outbreak of hostilities in Korea is snatching from millions of Americans one of the most cherished dreams of every family: ownership of a home of their own.

One of the nation's greatest economists has described the homebuilding industry as a "casualty" of the warm war. But the real casualties are those Americans who now will find home ownership beyond their reach. They will find it impossible to save from income, as they pay higher taxes, the money needed for a government-decreed larger down payment on a home of their own.

Through the ages, home ownership has been a dream that could be realized only by the fortunate few. With the growth of urban centers in the United States, high initial payments and high rates of interest on short-term mortgages conspired to keep home ownership out of reach of millions of people who needed homes, who wanted them, and who could afford to pay for them out of income, but only out of income.

During the last depression the people of the United States demanded that this situation be changed. The change began with legislation that authorized the federal government to step into the home financing picture. World War II called a sudden halt to the growing program of home ownership.

But the hope and the dream lived, and with the end of the war new and more sweeping steps to make the dream come true were taken by the government. Public policy proclaimed that every reasonable encouragement should be given to those who wished to own their own homes. Uniquely American in its breadth of vision and opportunity, this policy reflects the hopes and aspirations of decent peoples in all parts of the world.

HOMES BECOME AVAILABLE

With the greatest pent-up demand for housing

that the nation ever had known, the Federal Housing Authority and the Veteran's Administration and other agencies at the end of the war were commanded to bring about the dream. In 1950 the dream was becoming reality. Six out of every ten American families owned their own home. And 57 out of every 100 of them owned their homes free of mortgages and indebtedness. Ten years earlier, six out of every ten families had been tenants.

In the five years after the end of the war, more than 5,000,000 homes were built. Americans from all walks of life and with varying levels of income became homeowners. The family with $50 a week for income could expect that, for them, the age-old dream would come true. And it did. In the first six months of 1949, three out of every ten houses built were bought by families with incomes of $300 a month or less. Out of every 100 homes 68 went to families with incomes of less than $400 a month.

In 1949, with prices declining, the homebuilders added 1,025,000 homes, and the average cost was $8,500. Before the outbreak of fighting in Korea, the homebuilders were smashing all previous records, building at the annual rate of 1,500,000 homes or 4,100 new homes every day. This triumph of ingenuity and productive capacity by the homebuilders of America is unprecedented in the history of any nation at any time.

KOREA CHANGES SITUATION

When the Reds invaded South Korea, about 1,000,000 veterans had bought homes, many of them with no payments down, and with their ability to pay insured by the VA and the FHA. America was on its way to becoming a nation of home-owning families.

Then the rules for financing and government insurance of mortgages were changed. On July 19 all "mortgage insurance plans" were "amended." Down payments had to be five per cent more than they had been. The limit for mortgages on single family dwellings was cut from $16,000 to $14,000, cash down payment of ten per cent was required for property improvement loans.

The effect of these restrictions was immediate and drastic. By mid-September statistics from government agencies that reflect homebuilding plans showed the number of homes to be started had dropped between 45 and 50 per cent.

Even before the full effect of the July 19th restrictions could be measured, the governors of the Federal Reserve Board on October 12th dealt would-be home owners another jolting blow. In the sweeping order which has been publicized as Regulation "X," the Board specified maximum amounts which can be borrowed, maximum maturities and minimum amortization requirements for extensions of credit on residential construction.

Down payments of from ten per cent to 50 per cent are now required from non-veterans who hope to acquire their own homes. Veterans who had previously been able to buy low-cost homes without down payments now must supply from five to 45 per cent of the home's valuation in cash. Mortgages had formerly been available for terms as long as 25 years. Under the new regulations, 20 years is the maximum mortgage period except for those on houses costing less than $7,000, which may run 25 years.

STRICT CONTROL

Not even in World War II had private lender's terms been subject to government regulation. While private lenders have traditionally exacted stiffer terms from borrowers than has been the case with government agencies, this freedom of action is now a thing of the past.

Thomas P. Coogan of Miami, president of the National Association of Home Builders, says the new controls "may prolong the housing shortage indefinitely."

Walter P. Reuther, president of the C.I.O. United Auto Workers and chairman of the C.I.O. national housing committee, says:

> "The present program merely establishes a reverse rationing system under which those with ample funds can secure the housing they desire while those who need housing the most are deprived of it for now and sometime to come."

James C. Downs, president of the Real Estate Research Corp., says the regulations may produce a sharper decline in housing than is now justified by manpower and material needs.

Some home builders believe the restrictions may stop major home building programs completely and may bring on a "building depression" in the nation.

In financial circles, there is speculation that would-be purchasers may resort to drawing on savings, either bonds or cash, to "get around" the new regulations.

REGULATION "X"

The net effect of Regulation "X" may be summarized as follows:

1. It is no longer possible for every American who wants a low-cost home to have one, even if he can pay for it out of income.
2. The rate of homebuilding production has been forced below the minimum needed to meet normal demands for housing due to new family formations and replacement of worn-out housing.
3. This rate may be forced even lower.
4. The nation's second largest industry,

(See Page 38)

NEWS AND COMMENT ON ART

MILLS COLLEGE ART GALLERY

The Mills College Art Gallery, Oakland, has announced the following exhibitions for the month of November, according to an announcement by Sidney M. Kaplan, director.

Paintings and Brush Drawings by Margaret Wentworth Millard; Gouaches and Oils by Edward John Stevens, loaned by the Weyhe Gallery of New York and Mrs. Maud Morgan of Andover, Massachusetts (First exhibition on the West Coast); Water Colors by Ernest Haskell, and loaned by Ernest Haskell, Jr.; and a number of new acquisitions to the gallery.

PORTLAND ART MUSEUM

The Portland Art Museum, West Park and Madison, will originate a retrospective exhibition of the sculpture and drawings of Jaques Lipchitz as a special feature during November, according to Thomas C. Colt, Jr., Director.

Featured also will be the Walker Art Center survey of the Paintings of Alfred Maurer; and an intimate view of paintings, drawings, and prints by Arthur B. Davies. The Oregon Artists Gallery will show a group of Oils and Water Colors by Elaine Marsh; Introduction to Japanese Prints, from the Museum's collection will be shown as the first of a series covering the Japanese print field. The second in this series will be prints of the Torii School which will go on exhibit on November 13.

CALIFORNIA PALACE OF THE LEGION OF HONOR

Thomas Carr Howe, Jr., Director of the California Palace of the Legion of Honor, Lincoln Park, San Francisco, has announced the following events and exhibitions for the month of November:

Exhibitions: Fourth Annual Exhibition of Contemporary American Painting; Master Prints from the Lessing J. Rosenwald Collection, Lent by the National Gallery of Art; The French in California —a Pioneer exhibition. Assembled and presented under the auspices of the Comite du Centennaire de San Francisco; and 19th Century French Paintings from the Arthur Sachs Collection.

Educational Activities: Saturday art classes for Children ages 4 through 15 at 10 a.m. Instruction by Colin Graham and Irene Lagorio. Painting class for adults, with instruction by Colin Graham and Irene Lagoria. Classes at 2:00 p.m. Regular Wednesday Gallery Tours are being discontinued.

Organ Progarms: Organ recital by Uda Waldrop every Saturday & Sunday, 3 p.m.

Free Motion Pictures 2:30 p.m. Saturday—Admission free.

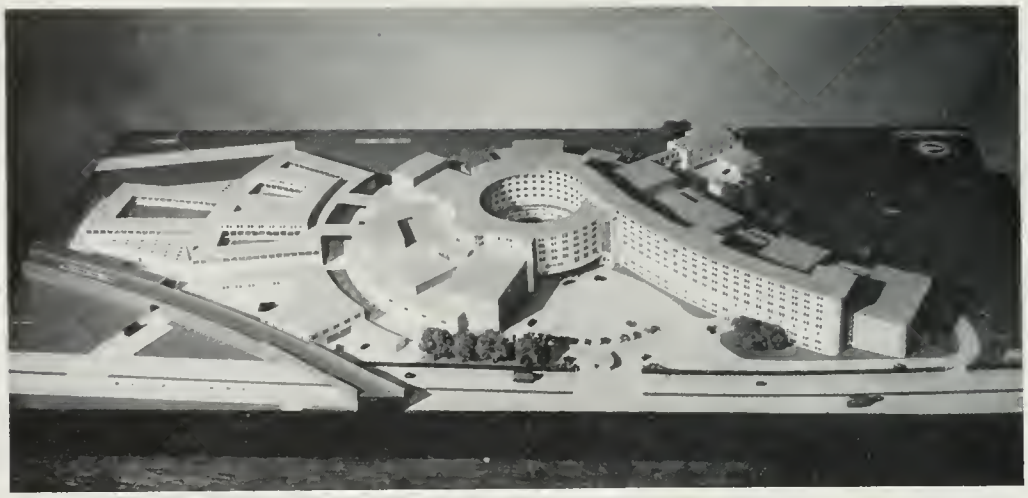
M. H. de YOUNG MEMORIAL MUSEUM

Walter Heil, director of the M. H. de Young Memorial Museum in Golden Gate Park, San Francisco, announces the following events and special exhibitions for the month of November:

EXHIBITIONS: 4th Annual of The Assn. of S. F. Potters and 3rd Annual of The Contemporary Hand Weavers of Calif.; 11th Annual Exhibition of Art By The Society of Western Artists; Contemporary Japanese Folk Art; Navy Portraits; Oils by Max Beckmann; Paintings by I. Rice Periera and Loren Mac Iver; Color Etchings of Guatemala and Mexico by Max Pollak, and his Collection of Guatemalan Textiles; Paintings by Linda Tung Chen Chang; Paintings by Richard Guy Walton; and Interservices Photographic Exhibition.

MUSEUM EDUCATION PROGRAM: Classes For Adults—Tradition and Transition—a series of illustrated lectures on history of European art and ideas. Conducted by Miriam Lindstrom, Tuesday afternoons at 2:30; Studies of Works of Art in the Museum Collection, illustrated with slides, Conducted by Charles Lindstrom, Wednesday afternoons at 2:30; Exercises in Perception—a study for a more conscious appreciation of art. Lecture, illustration and experiments in drawing by classmembers. Conducted by Charles Lindstrom. Given twice: Friday and Saturaday mornings 10:15 to noon; and Workshop—painting for the practice of observation and appreciation. Members provide their own materials and contribute to a model's fee. Conducted by Charles Lindstrom, Friday and Saturday afternoons 1:30 to 4:00.

Classes for Children: Drawing and Painting—for children 4 to 10 years old—Saturday mornings, 10:15 to 11:30. Conducted by Miriam Lindstrom, and Picture Making—for students 10 to 15 years old. Drawing of works in the museum galleries for the practice of observation; Wednesdays and Fridays 3:30 to 5:00. Conducted by Miriam Lindstrom.



BBC Photograph

BRITAIN'S NEW RADIO CITY

By M. T. TUDSBERY, Civil Engineer of the British Broadcasting Company

The British Broadcasting Corporation will shortly begin building a great new "Radio City" at Shepherd's Bush, London. This project is, apart from housing, the largest development for a single purpose known in London for a very long time, and will give the B.B.C. the biggest and most up-to-date television center in the world.

Last year, the B.B.C. invited the President of the Royal Institute of British Architects to submit names of architects suitable for a project of this kind, and in November, Graham Dawbarn, a Fellow of the Institute and senior partner of the firm of Norman and Dawbarn, was appointed to work in association with the Corporation's Civil Engineer.

Together we are now concerned with the initial planning stages of the development of some 13 acres at Shepherd's Bush. A site about a quarter of a mile in length by an eighth of a mile in width, and only 4½ miles from Charing Cross in the heart of London.

The construction will consist of a building of about 75 feet average height, designed especially for the production of television programs. The main block at the center will be a multi-story circular building, encircling an open court of about the size of Piccadilly Circus. The studios will radiate from its outer circumference, with a scenery construction, assembly and storage block beyond. A curvilinear spur with convex front breaks off from the main block in a direction opposite to that of the scenery block. This spur is for later development and will, when built, complete an architectural whole, offering a measure of flexibility in the disposition of large and small studios to the back of it.

In the foreground there will be a large open space between the main block and the spur making a fine approach to the main entrance and providing extensive parking space.

Architectural advisers to the B.B.C., Howard Robertson and Professor W. G. Holford, have said that in their view the design, when complete, will provide a striking architectural solution of the problems of neighborhood and site conditions generally; that it possesses character and originality and should be an emblem of this new kind of structure, fitting the purpose it will be required to serve; and, most important of all, that it is functionally correct—the different sections of the scheme being located on the right pieces of land and given the right orientation.

On the lower floor of the "ring" will be artists' rooms, dressing rooms, and control and engineers' room, the latter with observation windows overlooking the studios. Above will be the administrative offices. The half-site development for television will provide four studios, each 120 feet long by 75 feet wide by 45 feet high; two of these studios will go to a height of 60 feet for 40 feet of their length; there will also be three studios each 70 feet by 50 feet wide by 30 feet high.

A presentation suite will be provided between studios 1 and 2, where announcements, captions, telecine and other inserted items can be televised.

The outer periphery of the studios will be connected by a closed continuous runway of a size sufficient for the reception at each studio of assembled scenery units, to be conveyed to the studios upon "floats" from the scenery block.

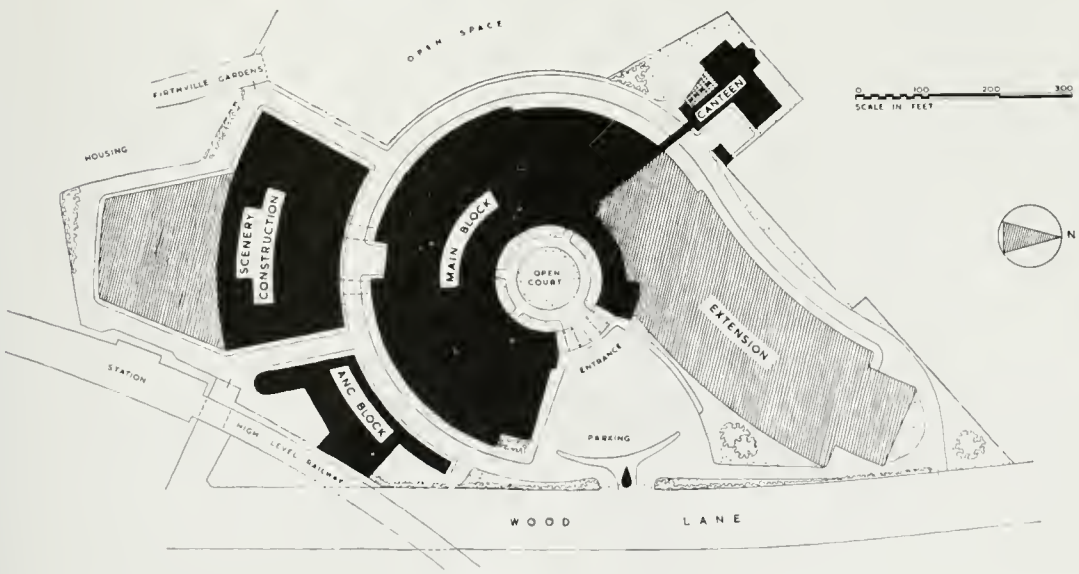
The road encircling the main block with its later extension is mainly intended to satisfy fire-fighting requirements.

The B.B.C. hope to build and occupy the premises progressively, as soon as controlled capital investment under the National Building Program will allow, and to have the scenery block completed by the end of 1952, so that it may serve temporarily the Corporation's studios at Lime Grove, about half a mile away. These were recently adapted for television until such time as the new center is ready.

Priority of development will be given to about half the site, to provide accommodation urgently needed for the television service. This will take the place of the inadequate temporary accommodation which has housed the service at Alexandra Palace in North London ever since its inauguration in 1936.

The total cost of the new buildings will be between $11,200,000 and $14,000,000.

Plan showing proposed development of the site as a whole. The half site development for television is shown in black.



A PRACTICAL LABORATORY FOR STUDY OF HEATING METHODS

FAIRMONT SCHOOL

BANGOR, MAINE

EATON, TARBELL & ASSOCIATES
Architects and Engineers

Demonstrating the versatility of today's well trained architect and engineer in adapting every project into a maximum of design, construction and occupancy use, an attractive new grammar school building annex at Bangor, Maine, is providing heating engineers and school authorities with a made-to-order, practical, laboratory for the study of heating methods.

The unusual "laboratory" is a spacious, modern, fifteen-room, one-story annex to Bangor's Fairmont School. The annex is radiant heated throughout, including six large classrooms, and the excellent opportunity for the study of heating methods is occasioned by the fact that the balance of the multi-story school is of brick construction and is completely equipped for steam heating.

The school itself is located in a localized "cold belt" section, which provides greater fluctuations in temperatures and offers an excellent proving ground for side-by-side comparison of radiant and steam radiator heating in providing comfort for the occupants of the building and in comparing costs of operation and maintenance.

The Fairmont School Annex was designed by the architect to include hundreds of square feet of large glass window area as a means of providing the best possible natural lighting for the students. This generous use of glass, however, presented an important heating problem which is even more of a consideration in Maine where variations in weather are more pronounced than is many sections of the country.

The architects and engineers on the project felt that radiant heating could best meet the twin objectives of good daylight lighting and complete winter comfort for the pupils.

The radiant heating is supplied and distributed throughout the Annex through the use of more than five tons of wrought iron pipe coils that have been installed at specified separation distances in the concrete floor. A carefully calculated capacity, oil fired boiler heats the necessary water which is pump circulated through the floor coils. In determining the wide variations in temperature between the fall, spring and winter months, and to provide ample flexibility for unusual, or extreme weather conditions, the engineering specifications on the radiant heating installations allowed for a 20-degree below zero minimum winter temperature. This being considered ample to provide adequate heating under the most "unusual" conditions.

All piping is installed in a concrete floor base that has been covered with asphalt tile to add to the comfort of the building's occupants, reduction of noises, and simplification of maintenance.

The operation of the entire heating system since its installation and use in the current school term has been watched with keen interest by Bangor's city officials and school authorities. Results to date have been so satisfactory that the architects have been requested to submit plans, which would include the radiant heating features, for a sub-primary and first and second grade grammar school building which the City of Bangor proposes to construct in the immediate future.

Numerous school authorities in other parts of the nation where wide differentials in climatic conditions are experienced, are also watching the Bangor "laboratory" with keen interest as from this new installation will come many answers to the question of heating school and public buildings at a minimum of expense and maintenance and with a maximum of comfort to the occupants of the buildings.

Hot water radiant heating in the floor and generous use of glass to provide a high degree of natural lighting was selected by the architects. View below shows laying of wrought iron pipe coils for radiant heating and position of windows.

Top view on opposite page shows overall exterior of the annex and the spacious use of glass windows which presented a heating problem that was solved by the use of radiant heat.

Photos by A. M. Byers Co.

COMPLETE TEXT OF NPA ORDER M-4

RESTRICTION AMUSEMENT BUILDING

Title 32-A — National Defence Appendix
Chapter 1 — National Production Authority, Department of Commerce
Part 22 — Construction

This order is found necessary and appropriate to promote the national defense, and is issued pursuant to authority granted by Section 101 of the Defense Production Act of 1950. In the formulation of this order there has been consultation with a representative group from the building and construction industry, including trade association representatives, and consideration has been given to their recommendations. As the construction industry is composed of a large number of segments, it has been impractical to consult all of the various trades and industries which comprise the industry.

Sec.

22.1 What this order does.
22.2 Policy of the National Production Authority.
22.3 Definitions.
22.4 Prohibited construction.
22.5 Exemptions.
22.6 Prohibited deliveries.
22.7 Defense against claims for damages.
22.8 Applications for adjustment or exception.
22.9 Communications.
22.10 Reports.
22.11 Violations.
22.12 List A—Prohibited construction.

AUTHORITY: §§ 22.1 to 22.12 issued under sec. 704, Pub. Law 774, 81st Cong. Interpret or apply sec. 101, Pub. Law 774, 81st Cong., sec. 101, E. O. 10161, Sept. 9, 1950, 15 F. R. 6105.

§ 22.1 **What this part does.** In order to further the purpose of the Defense Production Act of 1950 by conserving critical metals and other materials needed for the defense program, this part prohibits the commencement of construction of certain types of buildings and other structures. The construction prohibited is of a type which does not further the defense effort, either directly or indirectly, and does not increase the nation's productive capacity. The part permits, within specified limits, small jobs and construction for necessary maintenance and repair of buildings or structures of this type and also permits restoration of such buildings in the event of a disaster, an act of God, or an act of war.

§ 22.2 **Policy of the National Production Authority.** It will be the policy of NPA to further limit or prohibit construction of additional types of projects which do not further the defense effort or increase the nation's production capacity, when such action is deemed necessary in the interest of national defense to minimize material shortage. If such action becomes necessary, any such construction commenced after the effective date of this part may be halted, even though its commencement at the present time is not forbidden by this part.

§ 22.3 **Definitions.** For the purpose of this part:

(a) "Person" means any individual, corporation, partnership, association or any other organized group of persons and includes any agency of the United States or any other government.

(b) "Construction" means the erection, construction, reconstruction, restoration, or remodeling of any building, structure, or project, or additions thereto or extensions or alterations thereof.

(c) "Commence construction" means to incorporate into a building or other structure materials which are to be an integral part of the building or structure in question.

(1) The following activities constitute commencing construction: Pouring or placing of footings or other foundations; incorporating permanently in place additional building materials in a building which is being remodeled.

(2) The following activities do not constitute commencing construction: Demolition of buildings, tearing out partitions, site preparation such as excavation, grading, filling, laying down driveways, walks, railway sidings, etc., erecting temporary fences or construction barricades, work sheds and construction shanties, laying pipes, conduits and wires outside of the boundary lines of the walls of the structure, building retaining walls not physically incorporated within the structure.

(d) "Cost" means the total expense for materials, labor and services by whomever spent, but does not include expense of earth moving.

(e) "Maintenance and repair" means such work as is necessary to keep a structure or project in sound working condition or to rehabilitate a struc-

ture or project or any portion thereof, when the same has been rendered unsafe or unfit for service by wear and tear or other similar causes. The term does not include any building operation or job where substantial structural alterations or changes in design are made.

(f) "Damage restoration" means the restoring to substantially the same size and condition any structure which has been damaged by storm, fire, flood, or other disaster or by act of God or act of war.

§ 22.4 **Prohibited construction.** Except as permitted in § 22.5, no person shall, after the date of this part, commence construction of any building or structure to be used for or in connection with any of the purposes specified, as set forth in § 22.12 (List A).

§ 22.5. **Exemptions.** The following construction in connection with the building or structures to be used in connection with any of the purposes specified in § 22.12 (List A) is exempted from this part:

(a) Maintenance and repair on any building or structure.

(b) Small jobs in connection with any such building or structure including, but not limited to, alterations, additions, improvements and modernizations where the cost of all such work shall not exceed the sum of $5000 for any consecutive twelve months' period.

(c) Restoration of any such building or structure following a disaster, an act of God or an act of war.

(d) Construction by or for the account of the Department of Defense or the Atomic Energy Commission.

§ 22.6 **Prohibited deliveries.** No person shall accept an order for, sell, deliver, or cause to be delivered material, equipment or supplies which he knows, or has reason to believe, will be used in violation of the provisions of this part.

§ 22.7. **Defense against claims for damages.** No person shall be held liable for damages or penalties for any default under any contract or order which shall result directly or indirectly from compliance with any such regulation or order which shall result directly or indirectly from compliance with any regulation or order of the NPA (including any direction, directive or other instruction) notwithstanding that any such regulation or order shall thereafter be declared by a judicial or other competent authority to be invalid.

§ 22.8 **Applications for adjusment or exception.** Any person affected by any provision of this part may file a request for adjustment or exception upon the ground that such provision works an unreasonable hardship upon him not suffered generally by others in the same trade or industry or that its enforcement against him would not be in the interest of National Defense. Each request shall be in writing and shall set forth all pertinent facts and the nature of the relief sought, and shall state the reasons why denial of the request could result in undue and exceptional hardship. All such requests should be addressed to the National Production Authority, Washington 25, D. C., Ref.: M-4.

§ 22.9 **Communications.** All communications concerning this part shall be addressed to National Production Authority, Washington 25, D. C., Ref.: M-4.

§ 22.10. **Reports.** Persons subject to this part shall make such records and submit such reports to the NPA as it shall require subject to the terms of the Federal Reports Act.

§ 22.11. **Violations.** Any person who wilfully violates any provisions of this part or any other order or regulation of NPA or wilfully conceals a material fact or furnishes false information in the course of operation under this part is guilty of a crime and upon conviction may be punished by fine or imprisonment or both. In addition, administrative action may be taken against such persons to suspend any authority to commence or complete construction or such other assistance as may be rendered pursuant to this part.

§ 22.12. **List A—Prohibited construction.**

Amphitheatre.
Amusement arcade.
Amusement device such as roller coaster or similar device or a kind used in amusement parks.
Amusement park.
Arena.
Assembly hall used primarily for recreation or amusement.
Athletic field house. .
Band stand.
Baseball park.
Bathhouse for swimming.
Billiard or pool parlor.
Bleachers and similar seating arrangements.
Boardwalk used primarily for recreation or amusement.
Boat or canoe club.
Bowling alley.
Cabana.
Canteen.
Carnival.
Community recreation building.
Country club.
Dance hall.
Dude ranch used primarily for recreation or amusement.
Exposition or exhibition.
Gambling establishment.

(See Page 33)

THE CONTROL OF NOISE IN BUILDINGS

By CYRIL M. HARRIS, Technical Staff
Bell Telephone Laboratories

This afternoon I am going to discuss the means by which noise is communicated in buildings and how it can be controlled. Quiet conditions in a building located in a noisy area usually don't just happen. But they may be attained by intelligent planning—the planning of the building layout; the selection and careful installation of machinery and other potential noise sources; the proper design of wall, ceiling and floor structures; and the careful treatment of details which might otherwise completely short-circuit the noise-insulation of the building.

A question that should be answered in the early stages of planning is just how much sound insulation will be required. The answer to this question depends not only on the sources of noise that one is going to insulate against but also upon the degree of quiet that one wishes to attain.

Outdoor sources, people, and machinery are the three groups which are the principal contributors to the noise in buildings. Of these outside sources, traffic noise is usually the primary offender. It has been found that the noise in a typical office room increases directly with the number of people in it. In factories, on the other hand machinery noise is usually the predominant noise source. It is desirable that measurements be made of the level and spectrum of each of the sources of noise against which insulation is to be provided. Where this is not convenient or practical, one can make estimates based on the results of a number of comprehensive noise surveys which are available.

The question of what noise level is acceptable and what level to shoot for in the design of a building is somewhat arbitrary. The level of noise which will be acceptable depends not only on the use of the building and the character of the noise, but also one's individual tolerance to this noise. It is extremely useful from an engineering standpoint to have some established range of average noise levels that are acceptable under average conditions. Professor Vern O. Knudsen and I have made a study of this problem and have published the following table of recommended average noise levels in unoccupied rooms.†

TABLE I*

RECOMMENDED ACCEPTABLE AVERAGE NOISE LEVELS IN UNOCCUPIED ROOMS

	Decibels
Radio, recording, and television studios	25-30
Music rooms	30-35
Legitimate theaters	30-35
Hospitals	35-40
Motion picture theaters, auditoriums	35-40
Churches	35-40
Classrooms, lecture rooms	35-40
Apartments, hotels, homes	35-40
Conference rooms, small offices	40-45
Court rooms	40-45
Private offices	40-45
Libraries	40-45
Large public offices, banks, stores, etc.	45-55
Restaurants	50-55

Later we shall see how this table may be employed in calculating the noise-insulation requirements for a building.

The means by which sound is communicated throughout a building can be classified in two categories: airborne transmission, and sounds which originate from mechanical vibration and direct impact. Since mechanical vibration is transmitted through continuous structures with relatively little attenuation, it is important that it be squelched at its source wherever practical. The noise that is communicated into a room from the outdoors or elsewhere in a building by a direct continuous path through the air often limits the total sound insulation that can be attained. For example, one such path might be a poorly designed ventilation duct which is a common air supply for two rooms. During the last World War, the Radiation Laboratory at M.I.T. held meetings

EDITOR'S NOTE—Text of an Address delivered by Cyril M. Harris, at the National Noise Abatement Symposium, Chicago, which was sponsored by the Armour Research Foundation of the Illinois Institute of Technology and the National Noise Abatement Council.

†V. O. Knudsen and C. M. Harris, **Acoustical Designing in Architecture**, John Wiley and Sons, Inc., 1950, Page 221.

*The levels given in this table are "weighted"; that is, they are the levels measured with a standard sound-level meter incorporating a 40-db frequency-weighting network.

in the largest assembly hall in the Institute to discuss their secret research. I recall that it was necessary to close one of the laboratories on the floor above during these meetings and post an armed guard outside it, because a ventilating duct which supplied both rooms also provided a possible means by which the secret discussions could have been overheard clearly. Even when the windows and doors in a room are closed, more noise is apt to be transmitted through cracks around the windows, doors, pipes and service outlets than through all the wall areas. Obviously then, if one desires a high degree of sound insulation for a room, all such sound-leaks must be plugged. Noise is transmitted through a so-called "rigid partition" such as concrete, or brick, primarily in the following way. When sound waves strike the partition, they force it into vibration. The more massive it is, the smaller will be its amplitude of motion. These vibrations constitute a secondary source of sound and radiate acoustical energy on the opposite side of the partition. Many difficult problems that frequently arise in the control of noise in buildings can be obviated by careful and intelligent selection of the building site and the planning of the layout of the rooms and service facilities in the building. Thus by placing the rooms requiring the quietest conditions in sections of the building where the average noise level will be lowest, it is sometimes possible to avoid expensive methods of noise insulation. It is important that elevators, air conditioning equipment, motors and other noise-producing equipment be removed and isolated from sections that can least tolerate such noises. When planning a building, it is even important to give consideration to such details as the placement of windows and doors. If a group of rooms all have doors facing a common corridor, some advantage may be gained by staggering the positions of the doors. Since windows are usually the paths of least resistance in the over-all noise-insulation of a room, it is not advisable to place windows of adjacent rooms next to each other if moderate noise-insulation between rooms is required. I would like to cite one example to show how a consideration of noise conditions can be useful in the layout of a lecture room. Suppose the room is rectangular, and the primary source of noise is that which is transmitted through windows at the end of the room adjacent to a street. In this case, it would be advantageous to place the speaker's platform at the noisy end of the room, for the speaker will have a natural tendency to raise the level of his voice in the presence of noise, and furthermore, the listeners that are most distant from the speaker will then be in a quiet rather than a noisy environment.

Various types of partitions differ in regard to the relative acoustical energy on a partition which is transmitted through it is called its "transmission co-efficient." For example, a plastered brick wall 8 inches thick has a transmission coefficient approximately equal to 1 one-hundredth the corresponding value for a glass window.

Now supporse we want to determine how good the wall structures of a room must be in order to reduce outside noises to an acceptable level. We must have some way of rating the over-all effectiveness of the boundaries of the room in reducing these outside noises. Such an over-all rating should include means of averaging the insulative properties of the bounding partitions and take into account the beneficial effect of sound-absorption in the room in reducing the level of the noise which is transmitted into it. One such method of rating is given by the "noise-insulation factor," defined by:

$$\text{noise-insulation factor} = 10 \log_{10} \frac{\alpha}{t_1 S_1 + t_2 S_2 + t_3 S_3 + \ldots}$$

The term in the denominator is proportional to the ease with which air-borne sound can be transmitted into the room through all its bounding surfaces. The numerator α is equal to the total acoustical absorption in the room. This equation is particularly useful in estimating the acoustical requirements of the wall structures in reducing the level of outside noises.

The value of the noise-insulation factor that is required in any given situation can be determined by the following rule: Subtract the acceptable noise level from the average level of the outside noise; to this difference add 10 db as a factor of safety. The result is the noise-insulation factor required to furnish adequate sound insulation. Thus if the average outside noise level is 65, and the acceptable noise level from Table I for a particular room is 35 db, the noise-insulation factor should be about (65 — 35 + 10) or 40 db.

Because of the sound transmission coefficients of various types of partitions varies so widely, by as much as a hundred thousand, it is frequently convenient to use a logarithmic scale for rating the effectiveness of partitions as sound-insulators. Such a scale is used in defining transmission loss which is the number of decibels by which sound energy is reduced in transmission through it. Therefore, the larger the value of transmission loss that a partition has the better it will be from the standpoint of sound-insulation. The results of experimental measurements show that the transmission loss for non-rigid porous materials, for ex-

(See Page 35)

Aerial View of Entire Plant

Heating and Ventilating

THE SHEET AND TIN PLATE PLANT COLUMBIA STEEL COMPANY

PITTSBURG, CALIFORNIA

A three-fold heating and ventilating problem confronting engineers who designed and built the largest cold reduction Sheet and Tin Plate Mill on the West Coast was solved by the availability of a heater that conformed closely to their specifications. The "packaged," direct-fired space heaters chosen for these duties are reported as giving satisfactory, economical service with a minimum of maintenance.

The vast, new Sheet and Tin Plate Mill at the Pittsburg, California, plant of the Columbia Steel Company, a United States Steel subsidiary, is modern in every respect. It was dedicated in a ceremony attended by the entire Board of Directors of U. S. Steel, as well as hundreds of representatives of business, and industry. The over-all plant includes basic production open hearths, rolling mills, wire mills, rod mill and wire rope mill. Other facilities included an emergency hospital, a cafeteria, rest rooms for both men and women, a modern chemical-metallurgical-testing laboratory, and complete storage and maintenance accommodations.

The new Sheet and Tin Mill is a part of United States Steel Corporation's program of addition and improvement, launched since the end of World War II. Occupying 24½ acres of floor space under one roof, the Sheet and Tin Mill building is more than 1600 feet long and 974 feet wide. The machinery contained in this building weighs more than 13,500 tons. The operation of the Pittsburg Sheet and Tin Mill adds aproximately 325,000 net tons annually to the supply of flat-rolled steel products made by West Coast plants for Western industry.

Because Pittsburg is located in an area subject to seasonal temperature changes at the junction of the Sacramento and San Joaquin Rivers, 47 miles northeast of San Francisco, the mill's heating demand is somewhat greater in winter than the usual California weather conditions require. To this is added a condensation problem, caused

by the precipitation of water droplets on cold metal surfaces from atmospheric moisture held in suspension by warmed air within the mill. Another phase of operating conditions requires removal of fumes from hot dip tinning baths. These conditions necessitate a flexible and efficient heating and ventilating system for this modern mill.

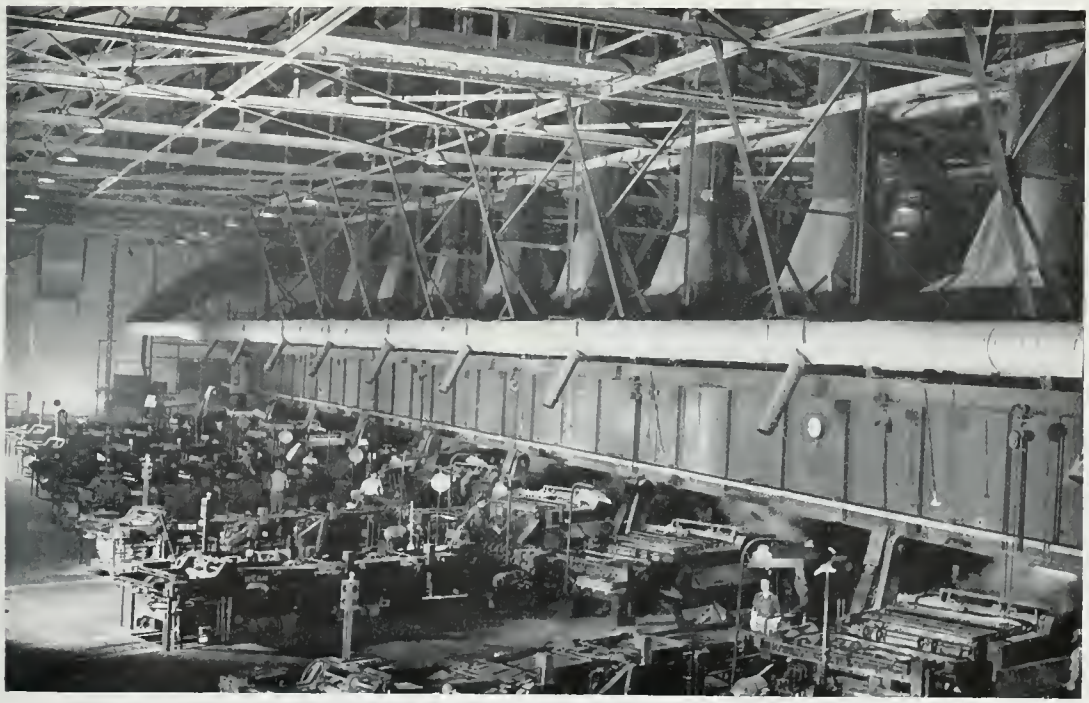
Heating and Ventilating Requirements

What comprises the flexible, efficient type of heating and ventilating system for this modern mill? Primarily, it must embody certain features that assure:

1. Proper distribution of heat in the most economical manner in order to minimize roof loss, eliminate drafts, and direct the heated air stream to where it will best perform the duties for which it is generated, that is, at the working level;
2. Flexibility of application and compactness so that a maximum area may be properly heated with a minimum amount of floor space occupied by each heater;
3. Maximum efficiency in combustion of fuel, and the greatest possible transfer of useful heat to the air stream;
4. Ability to maintain the temperature of a metal storage area at a constant level, in order too avoid condensation of atmospheric moisture on stored tin plate, etc.;
5. Economical provision of a dry, warm air supply by reheating and recirculating air drawn from floor level, and the ability to temper fresh air draw from out-of-doors to replace foul air removed;
6. A stream of air in motion to provide cooling action in summer as well as positive ventilation in winter and in summer;
7. Automatic operation of each heater permitting shut off when the area served reaches the proper temperature;
8. Simplicity of design and dependability of operation with a minimum of fuel and maintenance expense;
9. Ease of installation, maximum safety in operation, and easy accessibility for servicing and cleaning.

Once these features were recognized as requisites for the entire heating and ventilating system, it was apparent that the system must consist of a number of strategically placed units, due to the vast area served. The heaters were required to heat and ventilate the various sheet and tin plate warehouses, and the areas housing the tin house

Part of the hot dip tinning machines, showing fume hood and fresh air duct over the machines; each duct outlet directs stream of heated fresh air so that it not impinge directly upon the employee. The duct, as it extends from heater, becomes smaller in diameter, assuring uniform distribution of the air stream from all duct outlets.



STACKING BUNDLES IN WAREHOUSE

Manual labor is eliminated by use of fork lift truck.

One of the large heaters is seen in the background with nozzles directing portions of warm air stream in four different directions for uniform heating of all areas.

machine shop, the tin shearing lines, the hot dip tinning units, and the tin plate assorting room, covering almost half the mill area.

"Counterfla" Forced Air Space Heaters, were chosen to meet the varied duties required of them.

A total of 32 heaters were installed in various portions of the Sheet and Tin Plate Mill—21 heaters with output of 1,250,000 Btu per hour each, and 11 with output of 1,000,000 Btu per hour each. The 21 heaters of 1,250,000 Btu capacity have been in service since the mill was put into operation, and the other 11 were installed in 1949.

All 32 of the heaters are fired by natural gas at a pressure of five ounces at the burners, reduced from line pressure by regulators. Combustion air is taken from the main supply fans.

Comfort Heating

One of the most important functions of any heating and ventilating system is the provision of properly warmed air so that each employee may

CLOSE UP OF HEATER UNIT

Rectangular duct carries warm air stream to ducts over machines; pulls cold air in from out of doors, heats, and sends thru duct. In summer, burner is turned off, and cool fresh air is sent thru ducts.

perform his (or her) various duties in comfort and without lost time.

The heaters installed draw in cool air at floor level through intake louvers in the lower portion of the casing at the rate of 11,000 cubic feet per minute per million Btu output, temper it, then circulate it. The air temperature is raised approximately 80 degrees, then the air is distributed through directional louvered nozzles parallel to the floor, but above the workers' heads, at sufficiently high velocity—2,000 feet per minute—to evenly blanket a large area.

This method of heat distribution produces a uniform temperature at the working level without drafts, and tends to prevent the warm air from rising immediately to the roof, thereby reducing the roof heat loss.

Condensate Control

It is commonly known that warm air can carry more moisture in vapor form than can cold air. When warm air meets a cold body, particularly one of metal, the atmospheric moisture so carried is deposited in the form of droplets of condensate on the cold body. In many a steel warhouse, this condensate has caused trouble by forming rust spots on the stored metal, and steps were taken to eliminate the possibility of this happening at the Pittsburg mill. The engineers knew that this condition could be overcome by holding the temperature of the stored material within certain limits at all times.

To prevent this condensation, nine heaters are installed in the tin plate warehouse, and four each in two sheet warehouses. Certain of the heated air streams are directed downward, to heat the floor as well as the material stacked in the immediate vicinity. By the same operation, any droplets of moisture which may have formed on either the floor or the stock are evaporated and carried off by the warm air stream.

Another example of the extreme care that is taken to avoid condensation of atmospheric moisture is the treatment of box cars which are brought in on the loading track included within the tin plate warehouse. If the outside weather is cold, the cars and the air contained therein are cold when they are first brought into the building. Both the chilled air and the box car material will cause condensate to form from the heated air within the building. Box cars are therefore held on the indoor loading tracks for a period of from 12 to 24 hours before any product is packed into them for shipment to the customer.

Tempering Make-Up Air

A heater near the end wall of the tinning room, tempers fresh make-up air drawn from out-of-doors, warms it, and blows it through a duct above the employees' heads. The warm air stream is directed downward by the duct outlets so that each employee in the area is assured of a plentiful supply of fresh air. This duct becomes progressively smaller as it extends farther away from the heating unit, providing a constant, equalized air supply from all outlets.

In the summertime, the burners are turned off, and the units are used to circulate fresh air in exactly the same manner in which the heated air is distributed in the winter.

GENERAL INTERIOR VIEW:

Almost endless stacks of bundles of tin plate are "air conditioned" by four heaters at left which protect the tin plate from atmospheric conditions. Box cars on the loading track are warmed from 12 to 24 hours before loading as further precaution against condensation.

Recent Annual Convention

STRUCTURAL ENGINEERS ASSOCIATION OF CALIFORNIA

CORONADO, CALIFORNIA

Structural engineers from all sections of California gathered at Hotel del Coronado recently. They were drawn together not only in a spirit of good fellowship to their 19th Annual Convention, but also to participate in study and lecture periods where engineers from all parts of the United States presented new developments in engineering methods and materials.

ARTHUR W. ANDERSON
President SEAOC

New officers were elected for the coming year: Arthur W. Anderson, of San Francisco, President; Harold King, Los Angeles, Vice President; Henry Degenkolb, San Francisco, Secretary-Treasurer. The incoming directors are Walter A. Buehler, Sacramento; Henry Degenkolb, San Francisco; Arthur W. Anderson, San Francisco; E. C. Hillman, Jr., Los Angels; and Lewis K. Osborn, Los Angeles.

Major General Leif Sverdrup, Sverdrup & Parcel, came from St. Louis with his colored film taken during World War II of natives building airfields in the South Pacific. Thousands of natives with nothing but picks and shovels and trays to carry dirt moved hills and filled depressions and as General Sverdrup put it "compacted the landing strips with human 'sheeps foot' rollers, in other words, with thousands of tramping feet timed to tom-toms."

General MacArthur commented as he decorated General Sverdrup with the Distinguished Serviec Cross for leading the reconnaissance and capture of Lingayen Airfield on Luzon, "this is the engineer soldier at his best." General Sverdrup's film and lecture, "Modern and Stone Age Engineering," gave another side of engineering under stress. Only a diplomat could have organized the natives and built the fields we needed in the South Pacific Jungles.

Dealing with protection of water systems, light and power plants and other vital equipment against A-Bombs and heavy projectile type bombs, Mr. A. Amirikian, head engineer, Welding and Special Structures Section, Bureau of Yards and Docks, Navy Department, Washington, D. C., presented technical papers, concerning research on protective measures using reinforced concrete. Structures with reinforced concrete roofs up to 10 feet in thickness, and lower floors up to 6 feet thick are on the boards or under construction now. Mr. Amirikian concluded his lecture as follows:

1. No complete or unqualified structural protection against the A-Bomb, or even against conventional bombs, is feasible.

Left to right:

Arthur W. Anderson, newly elected President SEAOC; Alex Silverstein, Consolidoted Western Steel Corp., Los Angeles; Gen. Leif Sverdrup, Sverdrup & Parcel, Inc., St. Louis; Harry W. Bolin, retiring SEAOC President.

Left to right:

Tony Whon, Pacific Indoor Advertising Co., Los Angeles; Murroy Erick, Murray Associates, Los Angeles; A. Amirikian, Navy Dept., Washington, D. C.; William T. Wright, Kistner Curtis and Wright, Los Angeles; Leonard W. Rass, General Convention Chairman, Blue Diomond Corp'n, Los Angeles.

2. All buildings, regardless of type of framing, which are within the critical range of the exploding bomb, will suffer some damage, the amount of which will vary in accordance with their proximity to ground zero.

3. In general, design criteria against A-Bombs of the presently known type are not so severe in their requirements as those used against conventional weapons of the last war. If the bomb explodes at an altitude corresponding to its maximum range of damage, changes for needed protection to be introduced in conventional designs of reinforced concrete (designs as mentioned in his technical papers) will be relatively small. (It should be understood that within this range life protection is not feasible.)

4. By proper arrangement of framing and details, adequate overall strength can be provided so that a structure can avert collapse even though severe local damage may occur in the form of large plastic deformations or failures.

5. With certain assumptions of probable structural behavior, the adequacy of the overall strength of the framing, and the extent of damage to local members, can be satisfactorily ascertained.

"Protective design as a measure of defense can only follow the progress of weapons of offense in a vicious circle of continued improvement. What is devised now to be adequate against the weapons of today is apt to be inadequate against the weapons of tomorrow. This sad reflection should be a sobering influence against the creation of a false sence of future security."

C. M. Corbit, Jr., district engineer, American Institute of Steel Construction, Los Angeles, California, spoke on Structural Steel fire protection. Mr. Corbit explained the interest the steel industry displays in searching for lightweight fireproofing materials as tied in directly with the basic necessity of reducing dead loads—his talk, therefore, dealt with vermiculite and perlite gypsum plasters. Mr. Corbit is an authority on building codes and he dwelt on progress in getting code approvals as research advances methods and materials. Los Angeles drew special mention for being alert in modernization of its building codes, thus encouraging modern building and engineering practices.

Paul Elsner, chief engineer, Lindgren and Swinerton, San Francisco, gave verbatum remarks of his construction foreman concerning handling of lightweight concrete. Mr. Elsner pointed out that lightweight aggregates in many cases must be inundated with water — that truck mixers preheated by the sun often require cooling before loading—that special care was required in vibrating, etc.

It all added up to the conclusion that lightweight aggregates require special handling and cannot be mixed by conventional stone aggregate methods.

Professor Raymond E. Davis, director, Engineering Materials Laboratory, University of California at Berkeley, reported extensive tests concerning characteristics and reactions of practically all of the lightweight aggregates available in California. He stressed the desirability of regular shaped particles and emphasized that brands should be judged partly by these standards.

He also stressed the important fact that the producers of the aggregates must maintain a reasonably uniform gradation in their products and that the division of the products into the various sizes

should be such as to minimize separation in the handling processes.

Vermiculite and Perlite should not be considered as structural concrete aggregates. Both of these materials are excellent aggregates for fire-resistive plaster. Apparently their insulating properties are very good; they are both well adapted to the use of floor fills, and Perlite apparently has indications of being useful in masonry units. However, the modulus of elasticity and the compressive strength of concrete, using either one of these materials as aggregates, is far too low to consider them as structural concrete aggregates.

Mr. Murray Erick, Murray Erick Associates, Los Angeles, speaking on design experience with lightweight concrete, particularly stressed the importance of the engineer's recognizing the physical properties of the various lightweight aggregates—strengths of the materials, shapes of the individual particles, and the maximum practical unit strength which can be produced by the various aggregates.

Mr. Erick is of the conviction that: maximum size of lightweight aggregates should be somewhat less than the maximum size of normal stone aggregates, primarily because of strength of material; that fine aggregates should be composed largely of lightweight materials with a minimum of natural sand consistent with design strength materials,; and that a larger percentage of the fine aggregates in lightweight concrete should be below the #16 screen.

Newly elected SEAOC Officers: Left to Right: Harold P. King, vice president; Arthur W. Anderson, president, and Henry Degenkalb, secretary-treasurer.

Mr. Erick pointed out that in pouring lightweight concrete walls, tremies should always be used—about eight feet apart and not over 12 feet and that the pouring of the wall should be brought up uniformly as experience indicates that lightweight concrete is difficult to move laterally by vibration and that if the slump is kept to the lowest practical minimum, the vibration will not occasion segregation of the concrete and produce rock pockets in the finished concrete. He suggested that investigations should be made of curing time of lightweight concrete with protective coverings to determine the period needed to produce the desired strength. These curing coverings should then be promptly removed to permit rapid escape of excess moisture.

Mr. Alan Freas, senior engineer, Forest Products Laboratory, U. S. Department of Agriculture, Madison, Wisconsin, gave a resume of the finding of his department concerning laminated wood construction.

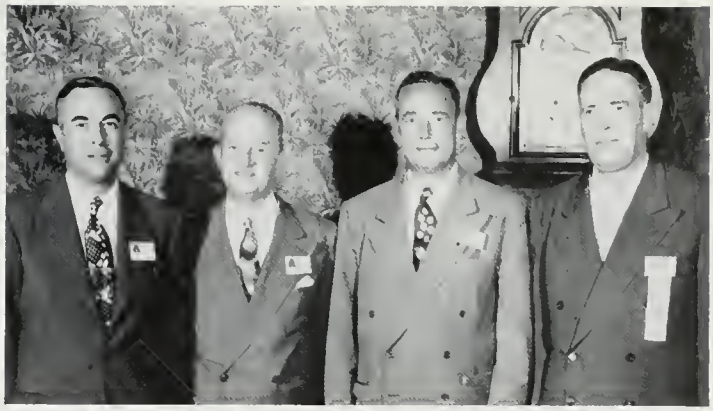
Mr. Freas gave a number of construction's increasing use of glued laminated construction, including churches, school gymnasiums, auditoriums, hangars, etc. Such buildings employ arches of fairly heavy cross section at moderate and large spacings. Laminated construction is increasingly important because it is capable of furnishing structural members of sizes now difficult or impossible to procure in solid form. For example, dredge spuds 30 x 30 inches in cross section and 85 feet long have seen service on the Columbia River.

Forest Product Laboratories has for years engaged in research to discover the properties, use techniques, and limitations of various woodworking adhesives. Mr. Freas specifically mentioned Technical Bulletin #691 of the U. S. Department of Agriculture, entitled "The Glued Laminated Wooden Arch," as a classic in its field.

Mr. B. L. Wood, consulting engineer, American Iron and Steel Institute, New York City, gave details with the aid of slides on the use of lightweight types of steel construction. Mr. Wood said, "Shapes formed of 16 gage steel (about 1/16" in thickness) and panels 18 gage and less in thickness now are supplementing the heavier hot-rolled structural shapes to serve as secondary floor and roof deck panels in tall buildings such as the 35 story Mercantile Bank Building in Dallas, the 28 story John Hancock Insurance Company Building in Boston, the 24 story Waterman Steamship Office Building in Mobile, and the Massachusetts Mutual Life Insurance Company Building in New York City—all erected since

Left to Right:

C. M. Corbit, Jr., District Engineer, American Institute of Steel Construction, Los Angeles; B. L. Wood, Consulting Engineer, American Iron and Steel Institute, New York; E. C. Hillman, Jr., Hillman & Nowell, Los Angeles; Ralph W. Hutchinson, California Bridge Dept., Sacramento.



World War II. We find them also in enormous industrial assembly plants, some nearly a mile long. Advantage of the favorable strength-weight ratio and of their ability to function for several uses simultaneously has been taken in one field after another, as production developments have lowered costs."

Mr. Wood criticized building codes that "allow use of glass windows (of unlimited number and size) that afford 2-minute fire protection, or require fire windows that afford 3/4-hour protection; but if you substitute a wall for those windows, it must be of 4-hour masonry construction—in spite of the fact that 1 or 2-hours fire resistance (depending upon the width of separation from adjacent structures) is ample for the severity of the fire risk. Obviously, that precedure is illogical and costly. Progress is being made in rationalizing building code requirements and making them consonant with the actual hazards. The metal-clad insulated spandrel panels are capable of developing 1 to 3-hours fire resistance and will qualify for use under modern code regulations."

Thor Germundsson, Structural and Railways Bureau, Portland Cement Association, Chicago, Illinois, addressed the engineers on Basic Design Concepts of Prestressed Concrete. He made many technical comparisons of prestressed concrete girder designs such as that while conventional concrete stress, strain and deflection are approximately proportional to the applied load, this will not apply to prestressed concrete and must be discarded in prestressed concrete design.

Mr. Germundsson went on to say, "As spans become longer and the ratio of dead to live load increases, more and more of the resisting moment of the section through the concrete in compression is used up by dead load and less and less of the total resisting moment remains available for live load stresses. This concept has become axiomatic to the point that it is taken at face value to apply to practically all types of girders.

"Prestressed concrete is an exception to the general rule. It is possible by prestressing concrete to approach close to the ideal condition in which the entire gross concrete section is made available for resisting live load stresses . . . This important and unusual point may be understood more clearly by considering a concrete girder resting on its soffit form but not yet prestressed. At this stage, the wire cables that are placed in hollow cores in the concrete are stressless. As the stretching of the unbonded wires progresses, more and more compression is induced in the concrete in the bottom zone until at some point of the procedure the compression at the bottom fiber becomes so large that the girder is lifted off its soffit form. The stretching of the wires is assumed to be continued until the stress equals zero in the top fiber and reaches the maximum compressive stress allowed in the bottom fiber. The section is then in a most favorable stress condition since the entire section area is available for live and other superimposed load stresses.

"By stressing wires correctly placed and stretched by what is called posttensioning it is theoretically possible to induce a stress condition on the cross-section which as far as the concrete stresses are concerned makes it appear as if the girder were weightless. The fact that flexural stresses due to girder load moment may be cancelled out by prestressing become a particularly useful attribute when span lengths get longer."

BUILDING INDUSTRY CONFERENCE . . . Annual Banquet and Awards Dinner

Achievement Awards

BUILDING INDUSTRY CONFERENCE BOARD

SAN FRANCISCO

More than three hundred architects, engineers, contractors, Producer Council members and representatives of the construction industry throughout the West gathered together at the Fairmont Hotel in San Francisco recently to attend the first Annual Awards Dinner of the Building Industry Conference Board, held this year under the general chairmanship of W. C. Tait, chairman of the Board.

While the objective of the occasion was primarily the awarding of recognition to three outstanding individuals in the construction industry, Charles . Nichols, program chairman, included an address by Leland W. Cutler who paid high tribute to the construction industry and likened architects, engineers and contractors to "dreamers" and "builders of dreams" for their international recognition in the design and construction field.

Chosen as the construction industry's "man of the year" was Henry J. Brunnier, San Francisco's nationally known consulting construction engineer and internationaly recognized authority on earthquake-resistant design.

In making the award to Brunnier, John S. Bolles, A.I.A., architect and Chairman of the Building Industry Conference Board's Award Committee, declared that "Brunnier was chosen by the Awards Committee from a long list of extremely high quality engineers, who are engaged in the private practice of their profession and at the same time devote considerable thought and attention to broader fields of endeavor such as professional education advancement, public administration service, and community service."

Bolles further said that "From the first the Awards Committee was presented with the name of a man who represented the individual. A man who through his brilliance in design and who through his constant willingness to work with and for his fellow man, has become unquestionably the outstanding engineer of the West."

The Committee also made an "Honorary Award" presentation to Born Maybeck, famous 92-year old Bay Area architect, and to Wm. E. Hague who for many years has been the executive manager of the Central Chapter of the Associated General Contractors and was also founder of the Building Industry Conference Board.

Maybeck is credited with establishing the pattern of the Bay Area style of architecture. Among his better known work is the Palace of Fine Arts, built of perishable materials for the Pan American Exposition of 1915 and which is still standing as a monument to its own beauty; the unique Earl C. Anthony Packard automobile building on Van Ness Avenue, San Francisco, and the Christian Science Church in Berkeley.

Brunnier's recent activities which have brought him national attention include his presidency of the American Automobile Association and his investigation of the Fukui earthquake. His selection for the last job was made by the Earthquake Engineering Research Institute and the U. S. Coast and Geodetic Survey, both organizations considering him the civilian best qualified to review and report this disaster.

Brunnier has been engaged in practice 39 years and has been responsible for the structural safety of many of the larger buildings and bridges on the Pacific Coast and has extended his field of activity to other parts of the world. In his professional capacity, he is the builder of much of the San Francisco dowtown skyline of big buildings.

After graduating in Civil Engineering at Iowa State College, he was employed by the American Bridge Company, Pittsburgh, Pa., by the New York Edison Company of New York and by the Ford-Bacon and Davis Engineering Company, San Francisco office.

In vocational activities has served as president of the State Board of Registration for Civil Engineers, of the Structural Engineers' Association of Northern California, of the Pacific Association of Consulting Engineers, of the Engineers' Club of San Francisco and of the local section of the American Society of Civil Engineers.

In community activities has served as president of the West of Twin Peaks Improvement Clubs Council, as chairman of the Chamber of Commerce Charter Committee which drafted a new charter for the City and County of San Francisco which later was basically adopted by the Board of Freeholders, as vice-chairman of the Citizens San Francisco Traffic Survey Committee, as a member of three different Wage Adjustment Boards of the Industrial Association of San Francisco, as chairman of the Executive Committee of the two Rotary International Conventions held in San Francisco, as president of the San Francisco Rotary Club, as district governor and vice president of Rotary International, as Master of Mt. Davidson Lodge F. & A. M., as president of the California State Automoblile Association, as president of the American Automobile Association and as president of the Lake Merced Golf and Country Club.

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SOUTHERN CALIFORNIA CHAPTER

The November meeting was highlighted by a talk by Charles Luckman on the opportunities and obligations of the architectural profession, and on the same program was the showing of the film "ARCHITECTURE WEST" a documentary film of great interest.

The Greater Los Angeles Plans, Inc., an organization formed in 1944 by a group of public spirited southern California business men, was explained by Charles Matcham at the October meeting. A number of projects have already been considered but because of the magnitude of the program considerable time will be consumed in making and developing initial plans.

NEW MEMBERS: Erwin W. Bingham, Elmo K. Lathrop and Andrew F. Murray are new Institute members. John R. Badgkey, James H. Burton, James D. Mount, Harold M. Suton, Fred P. Turton and William Vick, Junior Associates.

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WASHINGTON STATE CHAPTER

The October meeting was devoted to a consideration of subjects brought before the Chapter by the Legislative Commitee under the Chairmanship of Waldo B. Christenson.

The November meeting was devoted to a tour of the Bethlehem Steel Plant in Seattle and consideration of subjects arranged by the Education Committee.

NEW MEMBERS: Wendell H. Lovet, Jay Robinson, Jr., John Petter, and Rollin C. Chapin, as Corporate Members. Henry Balisky, Robert A. Parker, Donald M. Wilson, Gordon N. Johnston, and Louis M. Pederson, new Associates.

OREGON SOCIETY OF ARCHITECTS

Registered architects representing the State of Oregon have formed the OREGON SOCIETY OF ARCHITECTS representing the southern district of the State for the purpose of stimulating and encouraging a continual improvement within the architectural profession.

Charles W. Endicoll of Eugene has been named president; Sidney W. Little, Dean of the School of Architecture, University of Oregon, vice president; Frederick T. Hannaford, secretary-treasurer; and Clare K. Hamlin and John L. Reynolds, directors.

The Society also proposed to cooperate with other professions to promote matters of general public welfare.

East Bay Chapter:
James H. Anderson, President; Loy Chamberlain, Vice-President; William Corlett, Secretary; Chester Treichel, Treasurer. Office c/o Sec., Bank of America Bldg., Oakland.

Montana Chapter:
Orr Pickering, President; H. C. Cheever, Secretary, Montana State College, Bozeman, Montana.

Nevada Chapter:
George L. F. O'Brien, President; Aloysius McDonald, Vice-President; Graham Erskine, Secretary; Edward S. Parsons, Treasurer. Offices 160 Chestnut St., Reno.

Nevada State Board of Architects:
L. A. Ferris, President, Reno; Walter Zick, Secretary, Las Vegas; Directors, Aloysius MacDonald, Las Vegas; Russell Mills and Edward Oarsons, Reno. Office, P. O. Box 2107, Las Vegas, Nevada.

San Diego Chapter:
George C. Hatch, President; Jack R. Lewis, Vice-President; Louis A. Dean, Secretary; Donald Campbell, Treasurer; Directors, C. J. Paderewski, Walter C. See, Louis H. Bodmer, and Wm. Templeton Johnson. Offices Suite 206 Fifth Avenue Building.

San Joaquin Chapter: (California)
Fred L. Swartz, President, Fresno; Lloyd J. Fletcher, Vice President, Visalia; Walter Wagner, Secretary, Fresno; Robert W. Stevens, Treasurer, Fresno. Directors: Alastair Simpson, William D. Coats, William F. Baxter, Maurice J. Metz, Delegate California Council of Architects. Office, Sec. Fulton-Fresno Bldg.

Santa Barbara Chapter (California):
Robert I. Hoyt, President; Harold E. Burket, Vice-President; Ray W. Cheesman, Secretary; Lutah M. Riggs, Treasurer. Address, 242 San Marcos Bldg.

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Frank V. Mayo, President; Frederick A. Chase, Executive Secretary. Office, 3757 Wilshire Blvd., Los Angeles 5.

Southern California Chapter:
John Rex, President; John J. Landon, Vice-president; Burnett C. Turner, Secretary; Jack C. Lipman, Treasurer. Chapter Headquarters, 3757 Wilshire Blvd., Los Angeles 5.

Spokane Chapter:
Richard H. Eddy, President; Harry C. Weller, Vice-President 1; Kenneth D. Storment, Vice-President 2; Victor L. Wulff, Secretary, and Carl Johnson, Treasurer. Office 1023 W. Riverside Ave., Spokane, Washington.

Utah Chapter:
Howell Q. Cannon, President; William J. Monroe, Jr., Secretary, 3707 South 32nd West Street, Salt Lake City 7, Utah.

Washington State Chapter:
Perry B. Johanson, President; Paul Thiry, 1st Vice-President; Thomas F. Hargis, Jr., 2nd Vice-President; John S. Detlie, Secretary; Lawrence G. Waldron, Treasurer. Office 714 American Bldg., Seattle 4

Tacoma Society:
E. N. Dugan, President; P. G. Ball, Vice-President; Lyle Swedberg, Secretary-Treasurer.

Hawaii Chapter:
James C. Simms, President; Alfred Preis, Secretary, 1507 Kapiolani Blvd., Honolulu, T. H.

NORTHERN CALIFORNIA CHAPTER

The October meeting was devoted to "What Does the Press Think of the Architects" with representatives of the daily newspapers of San Francisco and Bay Area communities in attendance.

The informal round-table discussions developed a number of interesting factors existing between the "press" and the architects.

The Architectural Exhibits Committee, under the chairmanship of George Rockrise has scheduled three displays each of which will emphasize the "Layman's Point of View."

NEW MEMBERS: Roger W. Blaine, Corwin Booth, Stanley Fuller Davis, George Dolin, Frank E. Ehrenphal, Keplar G. Johnson, Albert Loubert, Germano Millano, and Paul C. Overmeyer.

ARCHITECT SPEAKER AT ANNUAL MARBLE INSTITUTE CONVENTION

Francis Keally, Architect and a Fellow in the American Institute of Architects, was the guest speaker at the sixth Annual Convention of the Marble Institute of America held recently in Atlantic City.

The speaker reviewed architectural trends from the Classic Greek period to the present, and discussed the importance of marble in architectural planning and achievement through the years.

Keally, who began the practice of architecture in New York City in 1927, is well known for his work —the National Pioneer Monument in Harrodsburg, Kentucky; the Oregon State Capitol; the Brooklyn Public Library; the Virginia State Library; the Communications Building at the New York World's Fair and many others.

WEST COAST ARCHITECT HONORED IN NEW YORK

Architect Bruce Heiser, young West Coast architect with offices in San Franciso, was recently guest of honor at a banquet in the Waldorf-Astoris Towers, New York City, at which many of the east's leading architects, industrial designers and the architectural press were in attendance.

BRUCE HEISER
Architect

Among those present were Philip Johnson, director of architecture for the Museum of Modern Art and designer of the glass house in New Canaan; George Nelson, industrial designer of furniture and clocks; Katherine Ford of House and Garden, and Douglas Haskell of Building; John Peter, author of the story on San Francisco architecture which recently appeared in Life; Dorothy Liebe, designer; Ezra Stoller, architectural photographer; and George Howe, instructor in architecture at Yale University.

Heiser has a number of outstanding architectural accomplishments on the West Coast including the Peterson Caterpillar Tractor salesroom on Harrison Street in San Francisco, and a residence in the Seacliff exclusive residential district in the same city.

ARCHITECT MOVES OFFICE

John Kewell, Architect, has announced the removal of his offices and the opening of new quarters for the practice of architecture at 1344 Wilshire, Boulevard, Los Angeles 17.

WITH THE ENGINEERS

Structural Engineers Association of Northern California
Arthur W. Anderson, President; John E. Rinne, Vice President; Franklin P. Ulrich, Treasurer; Geo. E. Solnar, Jr., Secretary. Howard C. Schirmer, Walter L. Dickey, Geo. A. Sedgwick, Harold O. Sjoberg and Jesse Rasenwald, directors.

Structural Engineers Association of Central California
William H. Petersen, President; Walter S. Wassum, Vice President; O. T. Illerich, Sec. Treas.; Ernest D. Francis, M. A. Ewing, and Arthur A. Sauer, directors. Office O. T. Illerich, c/o Div. of Arch., Sacramento.

American Society of C. E. San Francisco Section
A. W. Earl, President; G. B. Woodruff, Vice President; C. T. Wiskocil, Vice President; R. D. Dewell, Secretary-Treasurer. Secretary's Office, 604 Mission Street, San Francisco.

Structural Engineers Association of Southern California
E. C. Hillman, Jr., President; Donald F. Shugart, Vice President; Robert J. Short, Secretary-Treasurer. Directors: Charles M. Herd, John Minasian, Harry Bolin, John Case and Lewis Osborne. Office, 202 Architects Bldg., Los Angeles 13.

Puget Sound Engineering Council (Washington)
R. E. Kister, A. I. E. E., Chairman; E. R. McMillan, A. S. C. E., Vice Chairman; L. B. Cooper, A. S. M. E., Secretary; A. E. Nickerson, I. E. S., Treasurer. Offices, L. B. Cooper, c/o University of Washington, Seattle 5, Washington.

NAMED STRUCTURAL ENGINEER

Albert Litvin, material engineer for the National Bureau of Standards, has been named structural engineer at Armour Research Foundation of Illinois Institute of Technology, according to a recent announcement by Dr. E. P. Flint, chairman of the Foundation's ceramics and minerals department.

In his new position Litvin will do research in the field of lightweight aggregates and concrete.

PRESIDENT TRUMAN SIGNS FINAL ENGINEERING REGISTRATION LAW

With the signing of the District of Columbia engineering registration law by President Truman, registration laws now extend to every state, territory, possession and district in the nation, according to a report by Paul H. Robbins, executive Director of the National Society of Professional Engineers.

Applicants for registration may qualify on the basis of graduation from an accredited engineering school plus four years of responsible engineering experience, or on the basis of twelve years of engineering experience.

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STRUCTURAL ENGINEERS ASSOCIATION OF NORTHERN CALIFORNIA

Prof. Howard D. Eberhart, Department of Civil Engineering at the Berkeley campus of the University of California, spoke before members at the November meeting on the subject "Engineering Models & Structural Analysis."

The October meeting was a "Ladies Night" with the Junior Members arranging the program, consisting of a series of skits portraying the "very technical aspects of good sound engineering and the engineers problem."

FEMINEERS

The "Femineers" have appointed a by-laws committee and plans are completed for the holding of an election to determine officers for the ensuing year.

Membership is open to the wife of any structural engineer or civil engineer residing in the San Francisco area.

DEAN BOELTER NAMED FELLOW IN A.S.M.E.

One of the nation's highest engineering awards has been conferred upon Prof. L. M. K. Boelter, dean of the College of Engineering on the Los Angeles campus of the University of California.

Dean Boelter was named a Fellow in the American Society of Mechanical Engineers, the second oldest Founder society of the engineering profession in the United States.

Only a handful of engineers ever reach Fellowship in the Society which boasts a membership of over 50,000. The honor is awarded to those engineers who have made truly significant contributions to the advancement of the art and science of engineering.

Dean Boelter's award was made on the basis of his outstanding research with heat and mass transfer, roadway lighting, and his development of the U. C. L. A. College of Engineering.

STRUCTURAL ENGINEERS ASSOCIATION SOUTHERN CALIFORNIA

T. K. May, Technical Director of the West Coast Lumbermans Association, and N. S. Perkins, Technical Director of the Douglas Fir Plywood Association spoke at the November meeting on the subject "Symposium on recent advance in the Structural Timber Industries."

The discussions covered the latest advances in plywood and glued-laminated construction in the field of structural timber design.

Election of officers will be held at the December meeting.

SPECIAL JANUARY MEETING OF ENGINEERS ANNOUNCED

Arthur W. Anderson, president of the Structural Engineers Association of Northern California has announced his group will hold a special meeting early in January to hear an address by Col. Andrew M. Dunn, Chemical Corps of the U. S. Army.

Col. Dunn will speak on the subject "Atomic Bomb Effects."

COURSE IN INDUSTRIAL DESIGN ADDED TO COLUMBIA

Columbia University has added a course in industrial design which is planned for graduate engineers, under the instruction of Francesco Collura.

Subjects covered include sketching, clay modeling, materials, production and plant procedure, according to an announcement by Prof. George M. Allen, who is directing the course.

PLASTIC ENGINEERS TO HOLD CONVENTION

The Seventh Annual National Technical Conference of the Society of Plastic Engineers, Inc., will be held in New York City on January 18-20, and will be devoted to the theme "Plastics Shape the Future."

It is expected that more than 1,000 technologists from all parts of the United States, Canada, Mexico, and many foreign countries will attend.

SWEDISH ENGINEER VISITS WEST COAST

Sigfried Bjerninger of the Mechanical Engineering Institute of Agricultural Engineering in Sweden was a recent visitor to the West Coast in the interests of obtaining information on agricultural machinery and industrial tools for work simplification.

Bjerninger is in the U. S. under sponsorship of his government and the ECA.

SECOND ANNUAL CONFERENCE ON INDUSTRIAL RESEARCH ANNOUNCED

The Department of Industrial Engineering of Columbia University will conduct its second annual conference on industrial research early in the spring of 1951, according to a recent announcement by Prof. David B. Hertz, director of the conference.

The 1950 conference was chiefly concerned with administration of costs and budgeting. The 1951 conference will emphasize the selection, training and administration of research personnel.

RICHARD BOWMAN, has joined the art department of the University of Manitoba, Winnipeg, Canada.

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PRODUCER'S COUNCIL PAGE

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Edited by Don W. Lyon, LIBBEY-OWENS-FORD GLASS CO.

PRODUCERS PLAN GREATEST JINX

The most ambitious theatrical effort ever attempted by the San Francisco Chapter is virtually set for its history-making one-night stand at the Claremont Hotel in Berkeley on Friday night, December 1st. Entitled "Architecture Through The Ages or Death Of A Salesman" the play, in 19 centuries and seven scenes, will portray the pursuit of the architect by the salesman through the halls of time. Also depicted for the first time will be the scene which marked the founding of the first chapter of the AIA, then called, even as now, by another name.

General Chairmen for the 20th annual Christmas Jinks will be Howard W. Noleen of the E. F. Hauserman Co. and Don W. Lyon of the Libbey-Owens-Ford Glass Co. Jim Ferguson of Johns-Manville is Program Chairman and has surrounded himself with a highly skilled cast of both producers and architects as well as an efficient back stage crew. Arrangements for the Jinks are under the supervision of Lloyd Cramer of Westinghouse-Elevator Division. In charge of coordinating all architects invitations is Ray Brown of Gladding, McBean who is a past master at handling these matters. For the first time a separate committee has been appointed to handle the invitations to engineers; chairman of the committee is Art Staat of the Natural Gas Equipment Company.

With curtain time so near at hand it can be revealed that many here-to-fore secret practises of the architectural profession will be revealed in the full glare of the footlights. Why did Khufu Khampi, the greatest Egyptian architect of all time throw that most persuasive salesman Khamu Khonly out of his office? Why did Hiro-Glyphic Khloe break her boss's specifications? And why did the glass man Damon show up alone in the office of Nick Skrudapopulous, the Greek architect, when his partner had made the appointment?

These and many other questions which have long puzzled the world will be more or less clearly answered. The four hundred guests expected to be present will also be treated to a glimpse of the things to come. The architect of the Atomic Age will truly be a superman . . . as will the salesman who is able to even get into his office. The result of their collaboration will prove to be of heroic proportions.

The cast of characters includes many who have already gained fame in previous producers productions. Characters such as George Conley, Howie Noleen, Jack Armstrong, Carl Frank, and Jim Anderson (A.I.A.) have played to many an empty house and thrilled the multitudes as they ducked. To such a brilliant cast must be added the names of John Cowley, Donald Beach Kirby, AIA, Boris Kitchin, Bill Corlett, AIA, Fred Reimers, AIA and Paul O'Daffer. To say that these people are adequate is more than enough. The advance press raves on the show have been astounding . . . and could well result in its hitting the road. Don't miss it if you can.

The drama will be preceded by a dinner. The dinner will be preceded by a cocktail party. The bar will be open for early risers.

USE QUALITY PRODUCTS — CONSULT AN ARCHITECT

CALIFORNIA SCHOOL OF FINE ARTS

The California School of Fine Arts, 800 Chestnut Street, San Francisco, has added two new evening courses in Photography, according to Ernest Karl Mundt, Director.

One course Basic Photography, meeting on Monday and Friday evenings, will be taught by Frederick W. Quandt, Jr., and Dwain and will cover the techniques of developing and printing. The other course will be one in Print Criticism, conducted by Minor White, and meeting each Wednesday evening.

NEW OFFICE FORMED

Whitney R. Smith and Wayne R. Williams have announced the formation of a partnership for the practice of Architecture and Planning.

The new firm of Smith and Williams, Architects, have opened offices at 204 South Los Robles Ave., Pasadena.

RESTRICTION AMUSEMENT BUILDING

(From Page 15)

Golf club.
Golf driving range.
Grandstand.
Gymnasium (except where incidental to a building used for general classroom, laboratory, or other instructional purposes).
Lodge halls.
Music shells.
Night club.
Piers used primarily for recreation or amusement.
Race track, any kind.
Recreational club, any kind.
Riding academy.
Rodeo.
Seasonal camp used primarily for recreation or amusement.
Shooting gallery.
Skating rink.
Slot machine establishment.
Stadium.
Swinmming pool (except where incidental to a building used for general classroom, laboratory, or other educational purposes).
Table tennis establishment.
Theater, any kind (including drive-in theater).
Any other recreational, amusement, or entertainment purpose, whether public or private.

This part shall take effect October 27, 1950.

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W. H. Harrison, Administrator.

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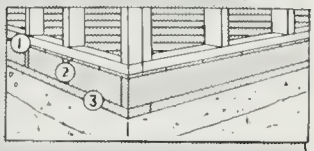

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HEADLINE NEWS & VIEWS

By E. H. W.

THE most popular price for residential property in Kansas City is in the $7500 bracket, according to a recent survey by the National Association of Home Builders.

* * *

PLANS are already underway for the celebration of the American Society of Civil Engineers centennial of engineering in Chicago during 1952.

* * *

LATE summer is a reminder that the heating system should be gotten ready for the coming heating season . . . better get busy il it hasn't already been done.

* * *

OF the 1,025,100 new homes and apartments started last year, 794,300 were one-family structures; 36,500 were rental type two-family, and 194,000 rental type multi-family structures.

* * *

OVER 400,000 new housing units have been constructed in Los Angeles since V-J Day.

* * *

SHREWDLY managed companies are not relaxing on their advertising and merchandising promotions for 1951 . . . top management consultants advise against slashing of advertising budgets as civilian business will be the "profitable" business for some time to come.

* * *

THREE out of every four families in the city of Pasadena (California) own their own homes.

* * *

AMERICAN families will spend $835,000,000 this year for new front porches, breakfast nooks, etc., according to a recent Government estimate.

* * *

AN estimated one million families or more have been buying homes each year since the War.

* * *

SINCE 1939 America has expanded its steel production by more than 47 million tons, an increase of 90 per cent in eleven years.

* * *

"HOME building is one of the greatest means of producing and creating real wealth that we have. Purchase of homes provides employment for millions of persons and the house itself constitutes something tangilble in the way of wealth; something that has a definite value":—Geo. C. Johnson, Banker, Brooklyn, N. Y.

THE CONTROL OF NOISE

(From Page 17)

ample, glass wool, is very small compared with rigid materials used as partitions. When porous materials are used as partitions they provide but o negligible amount of attenuation unless the partition is exceedingly thick. Hence it is not practical to use them primarily as sound insulators. However they can sometimes be used to advantage in conjunction with rigid partitions.

The transmission loss of a rigid partition such as a brick, concrete, or solid-plaster wall depends roughly on the mass per unit area of the structure. The following figure shows this relationship quantitatively. These data, reproduced from "Acoustical Designing in Architecture" have been compiled from measurements taken by a number of different laboratories. The transmission loss, averaged over the frequency range from 128 to 2048 cycles per second, is plotted against the weight in pounds per square foot of the partition. Although individual partitions may depart considerably from the values shown, the average increase for each doubling of the weight of the partition will be betwen 4 and 5 db. It is important to emphasize here that these represent average values and that the transmission loss is not the same at all frequencies. It is usually quite small at low frequencies and it increases, quite irregularly, at an average rate of from 3 to 6 db for each doubling of the frequency. It is because the transmission loss is small at low frequencies that these frequencies are usually the most difficult to insulate against. All of you have probably been in an apartment house having poor wall construction where the low-frequency thump, thump, thump, from the radio in the adjoining apartment could be clearly heard, whereas the higher frequency sounds carrying the melody were effectively blocked. Because of this variation with frequency, it is usually important, in determining the best type of partition for a particular problem, to consider the insulation values at different frequencies as well as the average value for all frequencies. Thus, if a particular noise has much of its energy concentrated in a certain frequency range, it may be advantageous to select materials or design structures that will provide high sound insulation for this frequency range.

The above graph shows that sound-insulation increases relatively slowly with the increase in mass of such a rigid partition. Hence, if this type of wall is employed, a very massive construction is required to supply a large amount of sound insulation. However, it is often possible to satisfy stiff requirements by the use of two relatively lightweight partitions which are isolated from each other; double walls which are structurally isolated can provide a means of obtaining high sound-insulation with a reasonable dead load. Staggered stud construction is one method of obtaining such beneficial structural separation. Also there are commercially available special nails or clips which have been designed for the construction of partitions with resilient attachment of lath. Such structures provide much more insulation against noise than do rigid partitions of equal weight.

Windows and doors are usually major weaknesses in the defense of buildings against outdoor noise. Even when windows are tightly sealed as they should be from the standpoint of noise control single glazing does not offer much in the way of sound insulation. Increasing the thickness of the glass helps a little, but where a high degree of sound-insulation is required, it is necessary to emply a permanently-sealed double-widow construction and use artificial ventilation. Doors should be heavy if they are to be effective in preventing the communication of sound through them. All cracks around the door must be sealed; a tight fit at all points can sometimes be achieved by the use of strips of rubber or felt at the head and jambs and by employing a special commercially available threshold closer. Even keyholes should be plugged.

(To Be Continued Next Month)

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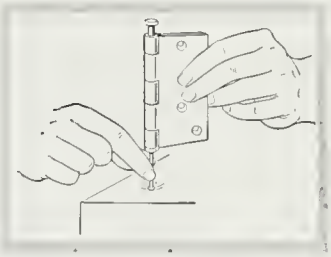

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BOOK REVIEWS
PAMPHLETS AND CATALOGUES

THE WORK OF OSCAR NIEMEYER. By Stamo Papadaki. Reinhold Publishing Corporation, 330 W. 42nd St., New York. Price $8.50.

Oscar Niemeyer, a young Brazilian architect, became quite well known in the United States as a result of his design of the Brazilian Pavilion at the 1939 New York World's Fair and recently his work as design consultant for the United Nations Headquarters in New York has stimulated public attention.

Architect Niemeyer has to his credit a number of buildings including schools and churches, public buildings, week-end houses, and an aeronautical training center. The author, a member of the Design Department of Brooklyn College and well known for his Le Corbusier, Architect, Painter, Writer, has gathered together a large number of photographs, plans, designs and work of Niemeyer which is well presented in this book.

The book is of particular interest to those interested in today's architectural design.

THE WAGE ADJUSTMENT BOARD. By Dunlop & Hill. Harvard University Press, Cambridge, Mass. Price $3.50.

The book deals with the wartime stabilization in the Building and Construction industry, and the authors John T. Dunlop and Arthur D. Hill have compiled an excellent analysis and evaluation of the work, policies, and decision of the Wage Adjustment Board.

Emphasis has been placed on collective bargaining in the construction industry; the wage-making processes, and the principal problems which confront wage stabilization. The authors show how these problems were related to the economic, technical, and collective bargaining relationship peculiar to the construction industry.

STRUCTURAL THEORY (Fourth Edition). By Hale Sutherland & Harry L. Bowman. John Wiley & Sons. Inc., 440 Fourth Ave., New York 16. Price $5.00.

The book is an introduction to the basic concepts and principles of structural theory relating to trusses, rigid frames, and space frameworks, and is primarily concerned with the study of structural stress analysis.

Important additions have been made to the Fourth Edition reflecting contemporary trends in engineering instruction and presentations have been simplified and clarified.

Major revisions occur in the chapters dealing with slope and deflection, and rigid frames.

As the book extends beyond the scope of the usual undergraduate advanced course, it can be used as a reference in connection with a graduate course in stress analysis.

NEW CATALOGUES AVAILABLE

Any of the catalogues or folders described here may be obtained by forwarding your request as indicated in the coupon below to the office of the ARCHITECT & ENGINEER. *Merely mark the items you want and clip or paste the coupon to your letterhead.*

221. RAY OIL BURNER BULLETIN. The Ray Viscosity Control System for Ray oil burners is described in an eight page illustrated bulletin issued by Ray Oil Burner Co., San Francisco, California. Design of the control valve in the system has been changed, according to Ray engineers, to use studs and nuts in place of the cap screws, so that the viscosity valve can be removed repeatedly without stripping the threads in the aluminum reservoir. Other changes in the system are also described in the booklet, Catalog Unit "F" of the Ray series. 8 pages illus., 10/50.

222. CONDENSED FLOURESCENT CATOLOG. The Edwin F. Guth Company recently released a new catalog covering their complete line of Commercial and Industrial, Fluorescent and Germicidal Lighting Equipment. This catalog presents a full

range of fluorescent fixtures in a condensed, easy-to-refer-to form. The new Guth Catalog #47 features the new Guth 4' Slimline for the complete Guth Line of 40W Fluorescents. 10/20/50.

223. PROBLEMS SOLVED WITH FLEXWOOD. Flexwood, a wood veneer 1/85th of an inch thick glued under pressure to cotton backing, is described in a profusely illustrated brochure just issued by United States Plywood Corporation. Flexwood, offered in a wide variety of veneers is shown solving many difficult architectural problems. 10 pages illus., 10/50.

224. RECIPES FOR LIGHTING. A new type of recipe book—one which contains "recipes" for lighting rather than cooking—has been issued by General Electric's Lamp Department. Entitled "See Your Home in a New Light," it contains an artist's conception of the application of "22 recipes for better living in a better-lighted home." The booklet is a phase of G.E.'s nation-wide "Home Light Conditioning Program." 31 pages illus., 11/50.

225. EXHAUSTER FAN. The Robinson Ventilating Company has published a bulletin containing capacity tables for their new type AE Exhauster. This Exhauster is adapted to many applications, such as dust exhaust systems, smoke and fume exhaust systems, recirculating systems for heat treating furnaces, and annealing ovens. 16 pages illus., 9/20/50.

226. ALLEGHENY METAL IN HOSPITALS. A new brochure has been released by the Allegheny Ludlum Steel Corporation covering the evolution of modern hospitals and the importance of stainless steel in their development. The brochure shows the uses of Allegheny Stainless Steel in the hospital over-all. A hospital forecast for stainless steel is included. 34 pages illus., 9/50.

227. TECO TRUSSED RAFTERS. The origin, development and wide acceptance by the building trades of wood frame Teco trussed rafters for roof construction are fully set forth in a new booklet just published by the Timber Engineering Company, an affiliate of the National Lumber Manufacturers Association. This brochure, entitled "Wood Frame Teco Trussed Rafters," will be of interest and immediate value to architects, engineers and contractors in all parts of the country. It will also be especially valuable to those responsible for military construction. AIA 19-B, 10 pages illus., 9/50.

228. NEW PREFABRICATED SKYLIGHTS. An entirely new concept in skylight design has been introduced by the Wasco Flashing Company. A completely prefabricated skylight, Wascolite consists of a Plexiglas dome attached to a trim copper frame. Lightweight and easy to install, Wascolite fits exactly on the curb for which it has been specified, with no adjustments necessary. It is attached by means of a few screws from the interior with no puncturing of the watertight exterior. 4 pages illus., 10/11/50.

229. LEAKY BRICKWORK. Causes of leaky brickwork and how they can be attacked with the help of Omicron Mortarproofing are discussed in a 16-page illustrated booklet "Omicron Mortarproofing For Tight Brick Walls" just published by The Master Builders Co., well known producer of technical treatments for the improvement of concrete and mortar. Featured in the booklet are tests by leading laboratories which show how "O.M."—cement dispersing, water reducing mortar admixture—improves the properties of all mortars whether job-mixed cement-lime, masonry cement, or prepared mortar mixes. AIA 3-L & 3-B-2, 15 pages illus., 10/50.

230. MARBLE FOR THE HOME. A new booklet has been published by the Marble Institute of America which illustrates the many uses of Marble in the home. This attractive booklet shows uses which can be both artistic and utilitarian. 11/50.

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226	227	228	229	230

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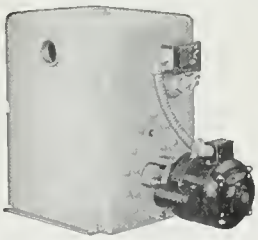

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NEW CREDIT RULES

(From Page 8)

representing 20 per cent of the national economy, has been crippled drastically and suddenly and this can impair our total economy as our enemies must wish.

5. With income lowered by increased taxes, and the amount of down payment on a new home increased by government edict prices of existing homes will be inflated.

Veterans who have been saving their money to equip and furnish the homes they dream of owning with no down payments will find that when they go to buy, the money for furnishings will have to be laid on the line for the house itself.

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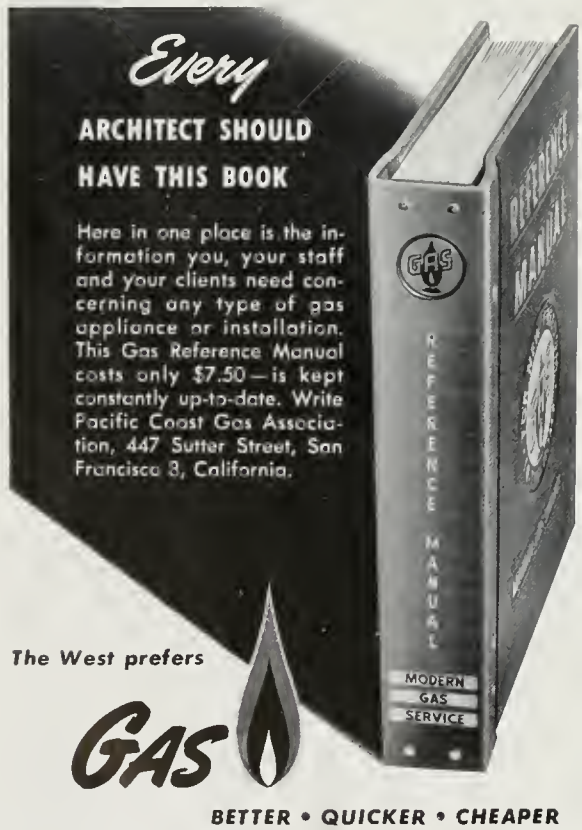
7,000	17.1	1,200	5,800
8,000	19.4	1,550	6,450
9,000	21.1	1,900	7,100
10,000	23.0	2,300	7,700
11,000	24.5	2,700	8,300
12,000	25.8	3,100	8,900
13,000	26.9	3,500	9,500
14,000	27.9	3,900	10,100
15,000	28.7	4,300	10,700
16,000	31.9	5,100	10,900
17,000	34.7	5,900	11,100
18,000	37.2	6,700	11,300
19,000	39.5	7,500	11,500
20,000	41.5	8,300	11,700
21,000	43.8	9,200	11,800
22,000	45.9	10,100	11,900
23,000	47.8	11,000	12,000
24,000	49.6	11,900	12,100
24,250	50.0	12,125	12,125
Over $24,250	50.0	.....	.....

VETERAN G.I. LOANS

Down Payment Percent	Down Payment Amount	Loan Amount	Differential in Down Payment Percentage
5.0	$ 250	$ 4,750	5.0
4.2	250	5,750	10.0
7.1	500	6,500	10.0
9.4	750	7,250	10.0
11.1	1,000	8,000	10.0
13.0	1,300	8,700	10.0
14.5	1,600	9,400	10.0
15.8	1,900	10,100	10.0
18.8	2,450	10,550	8.1
21.4	3,000	11,000	6.5
23.7	3,550	11,450	5.0
26.9	4,300	11,700	5.0
29.7	5,050	11,950	5.0
32.2	5,800	12,200	5.0
34.5	6,580	12,450	5.0
36.5	7,300	12,700	5.0
38.8	8,150	12,850	5.0
40.9	9,000	13,000	5.0
42.8	9,850	13,150	5.0
44.6	10,700	13,300	5.0
45.0	10,912.50	13,337.50	5.0
45.0	.....	.....	5.0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Common Brick—$36.00 per M—truck oad lots, delivered.
Face Brick—$81.00 to $106.00 per M, truckload lots, delivered.

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Clear Glazed—

2 x 6 x 12 Furring	$1.50 per sq. ft.
4 x 6 x 12 Partition	1.75 per sq. ft.
4 x 6 x 12 Double Faced Partition	2.10 per sq. ft.
For colored glaze add	.25 per sq. ft.

Mantel Fire Brick—$95.00 per M—F.O.B. Pittsburgh.
Fire Brick—Per M—$101.00 to $135.00.
Cartage—Approx. $9.00 per M.
Paving—$75.00.

Building Tile—

8x5½x12-inches, per M.	$139.50
6x5½x12-inches, per M	105.00
4x5½x12-inches, per M	84.00

Hollow Tile—

12x12x2-inches, per M	$116.00
12x12x3-inches, per M	124.00
12x12x4-inches, per M	140.00
12x12x6-inches, per M	186.00

F.O.B. Plant

BUILDING PAPER & FELTS

1 ply per 1000 ft. roll	$5.30
2 ply per 1000 ft. roll	7.80
3 ply per 1000 ft roll	9.70
Brownskin, Standard 500 ft. roll	6.85
Sisalkraft, reinforced, 36 in. by 500 ft. roll.	7.00

Sheathing Papers—

Asphalt sheathing, 15-lb. roll	$1.98
30-lb. roll	2.93
Dampcourse, 216-ft. roll	2.95
Blue Plasterboard, 60-lb. roll	5.10

Felt Papers—

Deadening felt, ¾-lb., 50-ft. roll	$3.13
Deadening felt, 1-lb.	3.69
Alphalt roofing, 15 lbs.	1.98
Asphalt roofing, 30 lbs.	2.93

Roofing Papers—

Asphalt Pfg., 15 lb.	$2.09
Standard Grade, 108-ft roll, Light	1.81
Medium	2.10
Heavy	2.49
Extra Heavy	2.88

BUILDING HARDWARE—

Sash cord com. No. 7	$2.65 per 100 ft.
Sash cord com. No. 8	3.80 per 100 ft.
Sash cord spot No. 7	3.65 per 100 ft.
Sash cord spot No. 8	4.00 per 100 ft
Sash weights cast iron $100.00 ton.	
1-Ton lots, per 100 lbs.	$3.75
Less than 1-ton lots, per 100 lbs.	$4.75
Nails, per keg, base	$11.00
8-in. spikes	11.00
Rim Knob lock sets	3.50
8utts, dull brass plated on steel, 3½x3½	.71

CONCRETE AGGREGATES—

The following prices net to Contractors unless otherwise shown. Carload lots only.

	Bunker per ton	Del'd per ton
Gravel, all sizes	$2.44	$2.90
Top Sand	2.39	3.13
Concrete Mix	2.39	3.06
Crushed Rock, ¼" to ¾"	2.38	2.90
Crushed Rock, ¾" to 1½"	2.38	2.90
Roofing Gravel	2.81	2.90
River Sand	2.50	3.00
Sand—		
Lapis (Nos. 2 & 4)	3.56	3.94
Olympia (Nos. 1 & 2)	3.56	3.88

Cement—

Common (all brands, paper sacks), carload lots, $3.39 per bbl. f.o.b car delivered $3.60.
Per 5ack, small quantity (paper) $1.05
Carload lots, in bulk per bbl. 2.79
Cash discount on carload lots, 10c a bbl., 10th Prox., less than carload lots $4.00 per bbl. f.o.b. warehouse or delivered
Cash discount 2% on L.C.L.

Trinity White, Medusa White — 1 to 100 sacks, $3.13 sack warehouse or del.; $9.56 bbl. carload lots.

CONCRETE READY-MIX—

1-2-4 mix, to 10 yards*	$11.75
10 to 100* yards	10.75
100 to 500 yards	10.35
Over 500 yards	10.05

* Delivered to site.

CONCRETE BLOCKS—

	Haydite	Basalt
4x8x16-inches, each	$ .16	$ .165
6x8x16-inches, each	.22	.22
8x8x16-inches, each	.26	.26
12x8x16-inches, each	.34	.39
12x8x24-inches, each		.60

Haydite Aggregates—

¾-inch to ⅜-inch, per cu. yd.	$6.75
⅜-inch to ⅛-inch, per cu. yd	6.75
⅛-inch to 0-inch, per cu. yd.	7.25

DAMPPROOFING and Waterproofing—

Two-coat work, $9.00 per square.
Membrane waterproofing—4 layers of saturated felt, $10.00 per square.
Hot coating work, $5.00 per square.
Medusa Waterproofing, $3.50 per lb. San Francisco Warehouse.
Tricosal concrete waterproofing. 60c a cubic yd. and up.

ELECTRIC WIRING—$15 to $20 per outlet for conduit work (including switches).

Knob and tube average $6.00 per outlet.

ELEVATORS—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing a slow speed automatic passenger elevator in small four story apartment building including entrance doors, about $9,500.00.

EXCAVATION—

Sand, $1.00; clay or shale, $1.50 per yard
Trucks, $30 to $45 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock will run considerably more.

FIRE ESCAPES—

Ten-foot galvanized iron balcony, with stairs, $250 installed on new buildings; $300 on old buildings.

FLOORS—

Asphalt Tile, 1/8 in. guage 18c to 35c per sq. ft.
Composition Floors, such as Magnesite 50c per square foot
Linoleum, standard guage, sq. yd. $2.75
Mastipave—$1.50 per sq. yd.
Battleship Linoleum—1/8"—$3.00 sq. yd.
Terazzo Floors—$1.50 per sq. ft.
Terazzo Steps—$2.50 per lin. ft
Mastic Wear Coat—according to type—20c to 35c.

Hardwood Flooring—

Oak Flooring—T & G—Unfin.—

	13/16x2¼	½x2	⅜x2	5/16x2
Clear Qtd., White	$425	$405	$	$
Clear Qtd., Red	405	380	$	$
Select Qtd., Red or White	355	340		
Clear Pln., Red or White	355	340	335	315
Select Pln., Red or White	340	330	325	300
#1 Common, Red or White	315	310	305	280
#2 Common, Red or White	305			

Prefinished Oak Flooring—

	Prime	Standard
½ x 2	$369.00	$359.00
½ x 2½	380.00	370.00
25/32 x 2¼	390.00	381.00
25/32 x 2¾	375.00	355.00
25/32 x 3¼	395.00	375.00
25/32 x 2¼ & 3¼ Ranch Plank		415.00

Unfinished Maple Flooring—

25/32 x 2¼ First Grade	$390.00
25/32 x 2¼ 2nd Grade	365.00
25/32 x 2¼ 2nd & Btr. Grade	375.00
25/32 x 2¼ 3rd Grade	240.00
25/32 x 3¼ 3rd & Btr. Jtd. EM	380.00
25/32 x 3½ 2nd & Btr. Jtd. EM	390.00
33/32 x 2¼ First Grade	400.00
33/32 x 2¼ 2nd Grade	360.00
33/32 x 2¼ 3rd Grade	320.00

Floor Layer' Wage $2.35 hr. (legal as of Nov. 1, 1949. Given by Inlaid Floor Co.)

GLASS—

Single Strength Window Glass	$ .29 per □ ft.
Double Strength Window Glass	.42 per □ ft.
Plate Glass, ¼ polished to 75	1.43 per □ ft.
¼ in. Polished Wire Plate Glass	2.35 per □ ft.
¼ in. Rgh. Wire Glass	.71 per □ ft.
¼ in. Polished Wire Plate Glass	2.00 per □ ft.
¼ in. Rgh. Wire Glass	.64 per □ ft.
⅛ in. Obscure Glass	.40 per □ ft.
5/32 in. Obscure Glass	.64 per □ ft.
⅛ in. Heat Absorbing Obscure	.58 per □ ft.
¼ in. Heat Absorbing Wire	.86 per □ ft.
Glazing of above additional $.15 to	.30 per □ ft.
Glass Blocks, set in place	3.50 per □ ft.

HEATING—

Average, $3.50 to $4.00 per sq. ft. of radiation, according to conditions.
Warm air (gravity) average $64 per register.
Forced air average $91 per register.

INSULATION AND WALLBOARD—

Rockwool Insulation—
(2") Less than 1,000 □ ft. $64.00
(2") Over 1,000 □ ft. 59.00
Cotton Insulation—Full-thickness
(3⅜") ..... $95.50 per M sq. ft
Sisalation Aluminum Insulation—Aluminum coated on both sides..... $23.50 per M sq. ft.
Tileboard—4'x6' panel ..... $9.00 per panel
Wallboard—½" thickness ..... $55.00 per M sq. ft.
Finished Plank ..... $69.00 per M sq. ft.
Ceiling Tileboard ..... $69.00 per M sq. ft.

IRON—Cost of ornamental iron, cast iron, etc., depends on designs.

LUMBER—

S4S No. 2 and better common O.P. or D.F., per M. f.b.m.. .. $100.00
Rough, No. 2 common O.P. or D.F., per M. f.b.m..... .. 100.00

Flooring—

	Per M Delvd.
V.G.-D.F. B & Btr. 1 x 4 T & G Flooring...	$225.00
"C" and better—all.....	225.00
"D" and better—all.....	225.00
Rwd. Rustic—"A" grade, medium dry..... 8 to 24 ft.	185.00

Plywood ..... 18c to 32c per ft.
Plyscord ..... 11½c per ft.
Plyform ..... 25c per ft.

Shingles (Rwd. not available)—
Red Cedar No. 1—$9.50 per square; No. 2, $7.00; No. 3, $5.00.
Average cost to lay shingles, $6.00 per square.
Cedar Shakes—½" to ¾" x 24/26 in handsplit tapered or split resawn, per square..... $15.25
¾" to 1¼" x 24/26 in split resawn, per square 17.00
Average cost to lay shakes,— 8.00 per square

Pressure Treated Lumber—
Wolmanized ..... Add $35 per M to above
Creosoted, 8-lb. treatment..... Add $45 per M to above

MARBLE—(See Dealers)

METAL LATH EXPANDED—

Standard Diamond, 3.40, Copper Bearing, LCL, per 100 sq. yds..... $39.00
Standard Ribbed, ditto..... $41.00

MILLWORK—Standard.

D. F. $150 per 1000. R. W. Rustic $175 per 1000 (delivered).
Double hung box window frames, average with trim, $12.50 and up, each.
Complete door unit, $15 to $25.
Screen doors, $8.00 to $12.00 each.
Patent screen windows, $1.25 a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., upper $9.00 to $11.00; lower $12.00 to $13.00.
Dining room cases, $20.00 per lineal foot. Rough and finish about $1.00 per sq. ft.
Labor—Rough carpentry, warehouse heavy framing (average), $75.00 per M.
For smaller work average, $85.00 to $100. per 1000.

PAINTING—

Two-coat work ..... per yard 85c
Three-coat work ..... per yard $1.10
Cold water painting..... per yard 25c
Whitewashing ..... per yard 15c

Linseed Oil, Strictly Pure (8¾ cis 7¾ lbs. per gal.)		Wholesale Raw	Boiled
Light iron drums	per gal.	$1.92	$1.98
5-gallon cans	per gal.	2 04	2.09
1-gallon cans	each	2 15	2.21
Quart cans	each	.61	.62
Pint cans	each	.34	.34

Turpentine (Basis, 7.2 lbs. per gal.)		Pure Gum Spirits
Light iron drums	per gal.	$1.35
5-gallon cans	per gal.	1.47
1-gallon cans	each	1.59
Quart cans	each	.47
Pint cans	each	.27

Replacement Oil—$2.75 per gal. in drums. $2.75 per gal. in 5-gal. containers.
Use Replacement Oil.....$3.00 per gal. in 1 gal. cont.
A deposit of $7.50 required on all drums.

PATENT CHIMNEYS—

6-inch	$2.50 lineal foot
8-inch	3.00 lineal foot
10-inch	4.00 lineal foot
12-inch	5.00 lineal foot

PLASTER—

Neat wall, per ton delivered in S. F. in paper bags, $17.60.

PLASTERING (Interior)—

	Yard
3 Coats, metal lath and plaster	$3.00
Keene cement on metal lath	3.50
Ceilings with ¾ hot roll channels metal lath (lathed only)	3.00
Seilings with ¾ hot roll channels metal lath plastered	4.50
Single partition ¾ channel lath 1 side (lath only	3.00
Single partition ¾ channel lath 2 inches thick plastered	8.00
4-inch double partition ¾ channel lath 2 sides (lath only)	5.75
4-inch double partition ¾ channel lath 2 sides plastered	8.75
Thermax single partition; 1" channels; 2¼" overall partition width. Plastered both sides	7.50
Thermax double partition; 1" channels; 4¾" overall partition width. Plastered both sides	11.00
3 Coats over 1" Thermax nailed to one side wood studs or joists	4.50
3 Coats over 1" Thermax suspended to one side wood studs with spring sound isolation clip	5.00

Note—Channel lath controlled by limitation orders.

PLASTERING (Exterior)—

	Yard
2 coats cement finish, brick or concrete wall	$2.50
3 coats cement finish, No. 18 gauge wire mesh	3.50

Lime—$4.00 per bbl. at yard.
Processed LLiLme—$4.15 per bbl. at yard.
Rock or Grip Lath—⅜"—30c per sq. yd.
½"—29c per sq. yd.

Composition Stucco—$4.00 sq. yard (applied).

PLUMBING—

From $200.00 per fixture up, according to grade, quality and runs.

ROOFING—

"Standard" tar and gravel, 4 ply—$11.00 per sq. for 30 sqs. or over.
Less than 30 sqs. $14.00 per sq.
Tile $40.00 to $50.00 per square.
No. 1 Redwood Shingles in place, 4½ in. exposure, per square..... $18.25
5/2 No. 1 Cedar Shingles, 5 in. exposure, per square..... 14.50
5/8 x 16"—No. 1 Little Giant Cedar Shingles, 5" exposure, per square.. 18.25
4/2 No. 1-24" Royal Cedar Shingles 7½" exposure, per square..... 23.00
Re-coat with Gravel $5.50 per sq.
Asbestos Shingles, $27 to $35 per sq. laid.
½ to ¾ x 25" Resawn Cedar Shakes, 10" Exposure $30.00
¾ to 1¼ x 25" Resawn Cedar Shakes 10" Exposure $35.00
1 x 25" Resawn Cedar Shakes, 10" Exposure 22.00
Above prices are for shakes in place.

SEWER PIPE—

C.I. 6-in. to 24-in. B. & S. Class B and heavier, per ton..... $99.50
Vitrified, per foot:
Standard, 8-in. ..... $ .60
Standard, 12-in. 1.17
Standard, 24-in. 5.04
Clay Drain Pipe, per 1,000 L.F. in carload lots:
Standard, 6-in. $225.00
Standard, 8-in. 375.00

SHEET METAL—

Windows—Metal, $2.50 a sq. ft.
Fire doors (average), including hardware $2.80 per sq. ft., size 12'x12'. $3.75 per sq. ft., size 3'x6'.

SKYLIGHTS—(not glazed)

Copper, $1.25 sq. ft. (flat).
Galvanized iron, 65c sq. ft. (flat).
Vented hip skylights, $1.50 sq. ft.

STEEL—STRUCTURAL—

$220 per ton erected, when out of mill.
$270 per ton erected, when out of stock.

STEEL REINFORCING—

$200.00 per ton, in place.

¼-in. Rd. (Less than 1 ton)	$7.90
⅜-in. Rd. (Less than 1 ton)	6.80
½-in. Rd. (Less than 1 ton)	6.50
⅝-in. Rd. (Less than 1 ton)	6.25
¾-in. & ⅞-in. Rd. (Less than 1 ton)	6.15
1-in. & up (Less than 1 ton)	6.10

1 ton to 5 tons, deduct 25c.

STORE FRONTS (None available).

TILE—

Ceramic Tile Floors—Commercial $1.20 to $1.60 per sq. ft.
Cove Base—$1.40 per lin. ft
Quarry Tile Floors, 6x6" with 6" base @ $1.35 per sq. ft.
Tile Wainscots & Floors, Residential, 4¼x4¼", @ $1.65 to $2.00 per sq. ft.
Tile Wainscots, Commercial Jobs, 4¼x4¼" Tile, @ $1.50 to $1.65 per sq. ft.
Asphalt Tile Floor ⅛" ⅜". .$ .18 - $ .35 sq. yd.
Light shades slightly higher.
Cork Tile—$ .70 per sq. ft.
Mosaic Floors—See dealers.
Lino-Tile—$1.00 per sq. ft
Rubber Tile—$ .55 to $ .75 per sq. ft.

Wall Tile—Glazed Structural Units—

2 x 6 x 12	$1.50 sq. ft.
4 x 6 x 12	1.75 sq. ft.
4 x 6 x 12 Double Faced Partition	2.10 sq. ft.
For colored glaze, add	.25 sq. ft.

Building Tile—

8x5½x12-inches, per M	$139.50
6x5½x12-inches, per M	105.00
4x5½x12-inches, per M	84.00

Hollow Tile—

12x12x2-inches, per M	$116.00
12x12x3-inches, per M	124.00
12x12x4-inches, per M	140.00
12x12x6-inches, per M	186.00

F.O.B. Plant

VENETIAN BLINDS—

75c per square foot and up. Installation extra.

WINDOWS—STEEL—INDUSTRIAL

Cost depends on design and quality required.

ARCHITECT AND ENGINEER
ESTIMATOR'S DIRECTORY
Building And Construction Materials

EXPLANATION—Building and construction materials are shown in major classified groups for general identification purposes with names and addresses of suppliers of materials listed in detail under group classification where name first appears—main offices are shown first, with branch or district offices following. The numeral appearing in listings refers to the major group classification where complete data on the dealer, or representative, may be found.

RCHITECTURAL VENEER (a)

eramic Veneer

PACIFIC CLAY PRODUCTS
San Francisco: 605 Market St., GA 1-3970
Los Angeles, Portland, Salt Lake City
GLADDING, McBEAN & CO. *(1)

rcelain Veneer

PORCELAIN ENAMEL PUBLICITY BUREAU
(Dept. AE-450)
Room 601, Franklin Building, Oakland 12, California
P. O. Box 186, East Pasadena Station, Pasadena 8, California

anite Veneer

VERMONT MARBLE COMPANY
San Francisco: 525 Market Street, SU 1-6747

arble Veneer

VERMONT MARBLE COMPANY
San Francisco: 525 Market Street, SU 1-6747

ICKWORK (1)

ce Brick

GLADDING, McBEAN & CO.
San Francisco: Harrison at 9th Sts., UN 1-7400
Los Angeles: 2901 Los Feliz Blvd., OL 2121
Offices at Portland, Seattle, Spokane

KRAFTILE
Niles, California, Niles 3611
San Francisco 5: 50 Hawthorne St., DO 2-3780
Los Angeles 13: 406 South Main St., MU 7241

REMILLARD-DANDINI CO.
San Francisco: 400 Montgomery St., EX 2-49BB

ILDING PAPER & FELTS (2)

SISALKRAFT COMPANY
San Francisco: 55 New Montgomery St., EX 2-3066
Chicago, Ill.: 205 West Wacker Drive

ANGIER PACIFIC CORP.
San Francisco 5: 55 New Montgomery St., DO 2-4416
Los Angeles: 7424 Sunset Boulevard

ILDING HARDWARE (3)

HE STANLEY WORKS
an Francisco: Monadnock Bldg., YU 6-5914
New Britain, Conn.

MENT (c)

ACIFIC PORTLAND CEMENT
an Francisco: 417 Montgomery St., GA 1-4100

NCRETE AGGREGATES (4)

ghtweight Aggregates

MERICAN PERLITE CORP.
ichmond, Calif.: 26th & B Sts.—Yard 2, RI 4307

E ESCAPES (5)

OULE STEEL
an Francisco: 1750 Army St., VA 4-4141
os Angeles, Calif.—LA 0911
ortland, Ore.—BE 5155
eattle, Wash.—SE 3010

MICHAEL & PFEFFER IRON WORKS, INC. Shingles
San Francisco 3: Tenth & Harrison Sts., MA 1-5966

FLOORS (6)

Hardwood Flooring

HOGAN LUMBER COMPANY
Oakland: Second and Alice Sts., GL 1-6B61

E. K. WOOD LUMBER CO.
Los Angeles: 4710 S. Alameda St., JE 3111
Oakland: 727 Kennedy St., KE 4-8466
Portland: 827 Terminal Sales Building

GLASS (7)

W. P. FULLER COMPANY
San Francisco: 301 Mission St., EX 2-7151
Los Angeles, Calif.
Portland, Oregon

HEATING (8)

HENDERSON FURNACE & MFG. CO.
Sebastopol, Calif.

S. T. JOHNSON CO.
Oakland 8: 940 Arlington Ave., OL 2-6000
San Francisco: 585 Potrero Ave., MA 1-2757
Philadelphia 8, Pa.: 401 No. Broad St.

SCOTT COMPANY
San Francisco: 243 Minna St., YU 2-0400
Oakland: 113 - 10th St., GL 1-1937
San Jose, Calif.
Los Angeles, Calif.

THOMAS B. HUNTER (Designer)
San Francisco: 41 Sutter St., GA 1-1164

INSULATION AND WALLBOARD (9)

LUMBER MANUFACTURING CO.
San Francisco: 225 Industrial Ave., JU 7-1760

SISALKRAFT COMPANY *(2)

WESTERN ASBESTOS COMPANY
San Francisco: 675 Townsend St., KL 2-3868
Oakland: 251 Fifth Avenue, GL 1-2345
Sacramento: 1224 I Street, 2-8993
Stockton: 1120 E. Weber Ave., 4-1863
Fresno: 1837 Merced Street, 3-3277
San Jose: 201 So. Market St., BA 4359-J

IRON—Ornamental (10)

MICHEL & PFEFFER IRON WORKS, INC.* (5)

LIGHTING FIXTURES (11)

SMOOT-HOLMAN COMPANY
Inglewood, Calif., OR 8-1217
San Francisco: 55 Mississippi St., MA 1-8474

LUMBER (12)

HOGAN LUMBER COMPANY *(6)

LUMBER MANUFACTURING CO. *(9)

E. K. WOOD LUMBER CO *(6)

SIDEWALL LUMBER COMPANY
San Francisco 24: 1995 Oakdale Ave., AT 2-8112

MARBLE (13)

VERMONT MARBLE COMPANY
San Francisco: 525 Market St., SU 1-6747
Los Angeles 4: 3522 Council St., FA 7834

METAL LATH EXPANDED (14)

FORDERER CORNICE WORKS
San Francisco: 269 Potrero Ave., HE 1-4100

SOULE STEEL *(5)

MILLWORK (15)

PACIFIC MANUFACTURING COMPANY
San Francisco: 16 Beale St., GA 1-7755
Santa Clara: 2610 The Alameda, SC 607
Los Angeles: 6820 McKinley Ave., TH 4196

MULLEN MANUFACTURING COMPANY
San Francisco: 60-80 Rausch St., UN 1-5815

LUMBER MANUFACTURING COMPANY *(9)

PAINTING (16)

Paint

W. P. FULLER COMPANY *(7)

PLASTER (17)

Exteriors

PACIFIC PORTLAND CEMENT COMPANY*(4)

Interiors—Metal Lath & Trim

FORDERER CORNICE WORKS *(14)

PLASTIC CEMENT (f)

PACIFIC PORTLAND CEMENT CO.
San Francisco: 417 Montgomery St., GA 1-4100

PLUMBING (18)

THE SCOTT COMPANY *(8)

THE HALSEY TAYLOR COMPANY
Redlands, Calif.
Warren, Ohio

HAWS DRINKING FAUCET COMPANY
Berkeley 10: 1435 Fourth St., LA 5-3341

CONTINENTAL WATER HEATER COMPANY
Los Angeles 31: 1801 Pasadena Ave., CA 6178

SIMONDS MACHINERY COMPANY
San Francisco: 816 Folsom St., DO 2-6794
Los Angeles: 455 East 4th St., MU 8322

SECURITY VALVE COMPANY
Los Angeles 31: 410 San Fernando Rd., CA 6191

SEWER PIPE (19)

GLADDING, McBEAN & CO. *(1)

PACIFIC CLAY PRODUCTS
San Francisco: 605 Market St., GA 1-3970
Los Angeles, Portland, Salt Lake City

SHEET METAL (20)
Windows
DETROIT STEEL PRODUCTS COMPANY
Oakland 8: 1310 - 63rd St., OL 2-8826
San Francisco: Russ Building, DO 2-0890
MICHEL & PFEFFER IRON WORKS, INC. *(5)
SOULE STEEL COMPANY *(5)
Fire Doors
DETROIT STEEL PRODUCTS COMPANY
Skylights
DETROIT STEEL PRODUCTS COMPANY

STEEL—STRUCTURAL (21)
COLUMBIA STEEL CO.
San Francisco: Russ Bldg., SU 1-2500
Los Angeles: 2087 E. Slauson, LA 1171
Portland: 2345 N. W. Nicolai, BE 7261
Seattle: 1331 3rd Ave. Bldg., MA 1972
Salt Lake City: Walker Bank Bldg., SL 3-6733
HERRICK IRON WORKS
Oakland: 18th & Campbell Sts., GL 1-1767
JUDSON PACIFIC-MURPHY CORP.
Emeryville: 4300 Eastshore Highway, OL 3-1717
REPUBLIC STEEL CORP.
San Francisco: 116 N. Montgomery St., GA 1-0977
Los Angeles: Edison Building
Seattle: White-Henry-Stuart Building
Salt Lake City: Walker Bank Building
Denver: Continental Oil Building
KRAFTILE COMPANY *(1)
SAN JOSE STEEL COMPANY
San Jose: 195 North Thirtieth St., CO 4184

STEEL—REINFORCING (22)
REPUBLIC STEEL CORP. *(21)
HERRICK IORN WORKS *(21)
SAN JOSE STEEL CO. *(21)
COLUMBIA STEEL CO. *(21)

TILE (23)
GLADDING, McBEAN & CO. *(1)
KRAFTILE COMPANY *(1)
PACIFIC CLAY PRODUCTS
San Francisco: 605 Market St., GA 1-3970
Los Angeles, Portland, Salt Lake City

TIMBER—REINFORCING (b)
Trusses
WEYERHAEUSER SALES CO.
Tacoma, Wash.
St. Paul, Minn.
Newark, N. J.
Treated Timber
J. H. BAXTER CO.
San Francisco 4: 333 Montgomery St., DO 2-3883
Los Angeles 13: 601 West Fifth St., MI 6294

WALL TILE (24)
GLADDING, McBEAN & CO. *(1)
KRAFTILE COMPANY *(1)

WINDOWS STEEL (25)
DETROIT STEEL PRODUCTS CO. *(20)
MICHEL & PFEFFER IRON WORKS, INC.*
SOULE STEEL COMPANY *(5)

GENERAL CONTRACTORS (26)
DINWIDDIE CONSTRUCTION COMPANY
San Francisco: Crocker Building, YU 6-2718
CLINTON CONSTRUCTION COMPANY
San Francisco: 923 Folsom St., SU 1-3440
MATTOCK CONSTRUCTION COMPANY
San Francisco: 604 Mission St., GA 1-5516
PARKER, STEFFENS & PEARCE
San Francisco: 135 So. Park, EX 2-6639
STOLTE, INC.
Oakland: 8451 San Leandro Blvd., TR 2-106
SWINERTON & WALBERG COMPANY
San Francisco: 225 Bush St., GA 1-2980
Oakland: 1723 Webster St., HI 4-4322
Los Angeles, Sacramento, Denver
P. J. WALKER COMPANY
San Francisco: 391 Sutter St., YU 6-5916
Los Angeles: 3920 Whiteside St., AN 9-856

TESTING LABORATORIES (ENGINEERS & CHEMISTS) (27)
ABBOT A. HANKS, INC.
San Francisco: 624 Sacramento St., GA 1-1
ROBERT W. HUNT COMPANY
San Francisco: 251 Kearny St., EX 2-4634
Los Angeles: 3050 E. Slauson, JE 9131
Chicago, New York, Pittsburgh
PITTSBURGH TESTING LABORATORY
San Francisco: 651 Howard St., EX 2-1747

BUILDING TRADES WAGE (JOB SITES) NORTHERN, CENTRAL AND SOUTHERN CALIFORNIA

ATTENTION: The following are the PREVAILING hourly rates of compensation being paid and in effect by employers by agreement between employees and their union; or as recognized and determined by the U. S. Department of Labor. (Revised to Sept. 1, 1949.)

CRAFT	San Francisco	Alameda	Contra Costa	Fresno	Sacramento	Santa Clara	Solano	Stockton	Los Angeles	San Bernardino	San Diego	Santa Barbara	Kern
ASBESTOS WORKERS	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.25	$2.25	$2.25	$2.25	$2.25*
BRICKLAYERS	3.00*	3.00	3.00	2.50	3.00	3.00	3.00	2.05*	2.625	2.625	2.625	2.625	2.625
BRICKLAYERS, HODCARRIERS	2.25	2.25	2.25	2.00	2.00	1.75	2.25	1.60*	1.75	1.75	1.75	1.75	1.75
CARPENTERS	2.16	2.16	2.175	2.175	2.175	2.175	2.175	2.175	2.20	2.20	2.20	2.20	2.20
CEMENT FINISHERS	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.28	2.28	2.28	2.28	2.28
ELECTRICIANS	2.50	2.50	2.50	2.25	2.50	2.50	2.40	2.40	2.50	2.50	2.50	2.50	2.50
ELEVATOR CONSTRUCTORS	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.25	2.25	2.25	2.25	2.25
ENGINEERS: MATERIAL HOIST	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	1.9875	1.9875	1.9875	1.9875	1.9875
PILE DRIVER	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.32	2.32	2.32	2.32	2.32
STRUCTURAL STEEL	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.30	2.30	2.2375	2.30	2.30
GLAZIERS	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.96
IRONWORKERS: ORNAMENTAL	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.255	2.255	2.255	2.255	2.255
REINF. RODMEN	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.28	2.28	2.28	2.28	2.28
STRUCTURAL	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.30	2.30	2.2375	2.30	2.30
LABORERS: BUILDING	1.55	1.55	1.55	1.45	1.55	1.45	1.55	1.55	1.65	1.65	1.65	1.65	1.65
CONCRETE	1.55	1.55	1.55	1.45	1.55	1.45	1.55	1.55	1.65	1.65	1.65	1.65	1.65
LATHERS	2.8125	2.8125	2.8125	2.8125	2.00*	2.50*	2.8125	2.8125	2.50	2.50	2.50	2.50	2.50
MARBLE SETTERS	2.375	2.375	2.375	2.375	2.375	2.375	2.375	2.375	2.25	2.25	2.25	2.25	2.25
MOSAIC & TERRAZZO	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.40	2.40	2.40	2.40	2.40
PAINTERS	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.22	2.22	2.22	2.22	2.22
PILEDRIVERS	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.33	2.33	2.33	2.33	2.33
PLASTERERS	2.8125	2.50*	2.50*	2.25*	2.25*	2.50*	2.50*	2.8125	2.50	2.75	2.50	2.50	2.50
PLASTERERS, HODCARRIERS	2.50	2.25*	2.25*	1.775*	2.00*	2.00*	2.25*	2.16	2.15	2.25	2.30	2.00	2.00
PLUMBERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
ROOFERS	2.25	2.25	2.25	1.875	2.00	2.00	2.16	2.25	2.25	2.00	1.90	2.00	2.00
SHEET METAL WORKERS	2.25	2.25	2.25	2.125	2.30	2.40	2.125	2.125	2.15	2.15	2.175	2.00	2.15
SPRINKLER FITTERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.25	2.25	2.25	2.25	2.25
STEAMFITTERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
STONESETTERS (MASONS)	3.00	2.8125	2.8125	2.25*	2.8125	2.8125	2.8125	2.05*	1.50	1.50	1.50	2.625	1.715
TILESETTERS	2.675	2.675	2.675	2.15	2.00	2.675	2.675	2.4375	2.50	2.50	2.20	2.50	2.25

* 6 Hour Day. ** 7 Hour Day.

Prepared and compiled by:
CENTRAL CALIFORNIA CHAPTER, ASSOCIATED GENERAL CONTRACTORS OF AMERICA, with the assistance and cooperation of secretaries of General Contractors Associations and Builders Exchanges of Northern California; and the above information for southern California is furnished by the Labor Relations Department of the Southern California Chapter, ASSOCIATED GENERAL CONTRACTORS OF AMERICA.

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ROOFS

(From Page 7)

The roof most commonly used in today's traditional houses—such as the Cape Cod—is the gabled roof which slopes downward in two directions from a central ridge. In recent years the hipped roof—sloping uniformly on all four sides—has become increasingly popular. The shed roof—which slopes in only one direction—is a popular type for houses of contemporary style.

Though people conitnue to think of modern houses as flat-roofed, the modern house often does not have a flat roof. In the best current book on modern houses, there are 30 flat-roofed houses, 13 houses with shed roofs, 27 gable roofs, and 16 hipped roofs. If the flat and shed roofs are combined and compared to the total of gable and hipped roofs, the result is a 43 to 43 tie. And these are all modern houses.

The pitch on a modern house roof is apt to be quite low. This is because modern houses have large roof overhangs which are needed to shield the large glass areas used in the walls. A high pitched roof with large overhangs would waste materials, and also would make the house look top heavy. Many of the recent 'expansion attic' type houses suffer from this top-heavy appearances.

It is a fallacy, too, that flat roofs are always cheaper than any other type. The home buyer will find that although they are certainly cheaper than the complicated pitched roofs, on a simple rectangular house plan a flat roof will cost slightly more than a gable roof which lends itself readily to an inexpensive truss type of construction.

But in the last analysis there are no factors of practicality or cost that are decisive in the choice of a roof. It is the home buyer himself who has the final choice of the kind of roof under which he wishes to live.

HOME DESIGN CONTEST AGAIN SPONSORED BY HOME BUILDERS

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Contestants will be asked to design a detached, one-family, low-cost house suitable for a lot, 60 feet wide and 100 feet long. The house must have three bedrooms, no basement and a floor area of 1,000 square feet or less. Design and construction must meet general FHA and VA requirements.

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CONSTRUCTION CONTRACTS AWARDED AND MISCELLANEOUS PERSONNEL DATA

DEPARTMENT STORE BUILDING, San Francisco. Sears-Roebuck & Co., owner. $1,950,000. ARCHITECT: W. D. Peugh, San Francisco. 3 story and basement, 300,000 sq. ft., reinforced concrete construction. GENERAL CONTRACTOR: Barrett & Hilp, San Francisco.

NEW MODESTO BEE NEWSPAPER BUILDING, Modesto, Stanislaus County. McClatchy Newspapers, owner. $588,469. ENGINEER: Lockwood Greene Engrs., Inc., New York. 2 story and part basement, 34,620 sq ft., structural steel frame, concrete block walls. Remodel of old Capitol School for Radio Station. GENERAL CONTRACTOR: Stolte, Inc.

CROTHERS HALL ADDITION, Palo Alto, Santa Clara County. Stanford University, owner. 2 wings, 40 rooms. $250,000. ARCHITECT: Eldridge T. Spencer and Wm. C. Ambrose, San Francisco. 2 story and basement reinforced concrete construction, tile roof. GENERAL CONTRACTOR: Wagner & Martinez, San Francisco.

OFFICE BUILDING, Sacramento, Sacramento County. Sacramento Retail Credit Association, owner. $168,100. ARCHITECT: Barovetto & Thomas, Sacramento. 2 story, 80x80, reinforced concrete and frame construction. GENERAL CONTRACTOR: Continental Construction Co., Sacramento.

TALLAC VILLAGE SQUARE SHOPPING CENTER, Sacramento, Sacramento County. Jacinto Developments, Inc., owner. 18 stores, $250,000. ARCHITECT: Albert W. Kahl, San Mateo. 1 story, 31,000 sq. ft., frame construction.

VIRUS AND BIO-CHEMISTRY BUILDING, Berkeley, Alameda County. University of California, owner. $1,231,741. ARCHITECT: Michael Goodman, Berkeley. STRUCTURAL ENGINEER: Hall & Pregnoff, San Francisco. ARCHITECTURAL ENGINEER: Clyde C. Bentley, San Francisco. 5 story, 60x200, reinforced concrete construction, aluminum windows and doors, greenhouse on roof, ventilating system, 1 elevator, 1 dumbwaiter and incinerator, 62,000 sq. ft. GENERAL CONTRACTOR: Parker, Steffens & Pearce, San Francisco.

APARTMENT BUILDING, Oakland, Alameda County. Masud Mehran, owner. 30 6-room apartments, $70,000. ARCHITECT: I. M. Johnson, Oakland. 3 story, frame and stucco construction.

STORE BUILDING, Marysville, Yuba County. C. D. Culbertson, owner. 4 or 5 stores. $100,000. STRUCTURAL ENGINEER: H. M. O'Neil Co., Oakland. 1 story, 81x160, precast tilt-up concrete blocks. GENERAL CONTRACTOR: E. S. McKittrick Co., Oakland.

FACTORY REMODEL FROM LAUNDRY BUILDING, Oakland, Alameda County. Calif. Cotton Mills Co., owner. $150,000. ARCHITECT: Ed. O. Blodgett, San Francisco. Interior and exterior remodel. GENERAL CONTRACTOR: S. G. Johnson, Oakland.

CASKET FACTORY BUILDING, Cloverdale, Sonoma County. Calif. Casket Co., owner. $120,000. ENGINEERS: Smith, Lindstrom & Duncan, San Francisco. 1 story, 100x400 frame and aluminum siding and roof, steel sash. GENERAL CONTRACTOR: J. E. Bentley, Cloverdale.

ST. MARY'S HOSPITAL ADDITION, Reno Nevada. St. Mary's Hospital, owner. 49 beds, kitchen, laundry, $520,000. ARCHITECT: L. A. Ferris & G. Erskine, Reno. 3 story and basement, reinforced concrete structural steel construction. GENERAL CONTRACTOR: Mervin L. Gardner, Reno.

RESIDENCE FOR CHRISTIAN BROTHERS, San Francisco. Roman Catholic Archbishop of S. F., owner. $232,530. ARCHITECT: Vincent Buckley, San Francisco. 3 story and basement, reinforced concrete and frame construction. GENERAL CONTRACTOR: Cahill Bros., San Francisco.

COLD STORAGE PLANT, San Rafael, Marin County. Marin Produce Co., owner. $125,000. ENGINEER: C. W. Zoellner, Ross. 1 story and mezzanine, 100x120, reinforced concrete, structural steel roof trusses. Cork insulation and refrigeration equipment. GENERAL CONTRACTOR: Litchfield Construction Co., San Rafael.

JUNCTION GRAMMAR SCHOOL, San Lorenzo, Alameda County. San Lorenzo Elementary School District, owner. 14 classrooms, kindergarten, administration and toilet room, $170,980. ARCHITECT: Dragon, Schmidts & Hardman, Berkeley. Frame and stucco construction. GENERAL CONTRACTOR: C. R. Hills, San Leandro.

THEATRE BUILDING, Sharps Park, San Mateo County. Pacific Development Co., owner. 850 seats. $90,000. DESIGNER: Santocono, San Francisco. Concrete block and frame construction, laminated timber arches. GENERAL CONTRACTOR: Pacific Home Builders, San Mateo.

CHURCH AND EDUCATIONAL BUILDING, ing, Berkeley, Alameda County. Bethlehem Lutheran Church, owner. $150,000. ARCHITECT: Lewis P. Hobart and Ralph N. Kerr, San Francisco. Church: frame and stucco construction, tile roof. Educational building: reinforced concrete and frame construction. GENERAL CONTRACTOR: Edwin S. Hjellum, El Cerrito.

NEW LABOR TEMPLE, Sacramento, Sacramento County. Sacramento Labor Temple Assoc., owner. $341,131. ARCHITECT: Harry J. Devine, Sacramento. 2 story, 30,000 sq. ft., reinforced concrete and frame construction. GENERAL CONTRACTOR: Edwin J. Mackey, Sacramento.

RESIDENCE, Los Altos, Santa Clara County. Mrs. Sefman, owner. 9 rooms, 3 baths, $50,000. ARCHITECT: Gifford E. Sobey, Los Gatos. Frame and stucco some brick, steel sash. GENERAL CONTRACTOR: H. E. Buckner, Los Gatos.

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ELLA GRAMMAR SCHOOL ADDITION, Olivehurst, Yuba County. Ella Elementary School District, owner. 5 classrooms, $118,103. ARCHITECT: Chas. F. Dean, Sacramento. Frame and stucco construction. GENERAL CONTRACTOR: W. D. Salts, Yuba City.

WAREHOUSE BUILDING, Emeryville, Alameda County. Clear Print Paper Co., owner. $160,785. ARCHITECT: Masten & Hurd, San Francisco. 1 story, 22,000 sq. ft. reinforced concrete and structural steel roof trusses. GENERAL CONTRACTOR: Christensen & Lyons, Oakland.

STORE BUILDING, Salinas, Monterey County. Valley Center Development Co., owner. 5 stores, $117,777. ARCHITECT: Clarence Smale, Los Angeles. 1 story & mezz., reinforced concrete & structural steel, stone veneer, steel sash, terrazzo & plate glass front. GENERAL CONTRACTOR: Harold C. Geyer, Monterey.

MARKET BUILDING, STORE BUILDING, Bakersfield, Kern County. C. E. Houchin, owner. $178,000. ARCHITECT: Stiles Clements, Los Angeles. Market, 150 x 150; store, 60 x 125, concrete block construction, wood roof,steel sash, plate glass & air conditioning. GENERAL CONTRACTOR: Guy E. Hall, Bakersfield.

APARTMENT BUILDING, San Francisco. Dr. F. W. Tydeman, owner. 6 apartments, $90,000. ARCHITECT: Ward & Boiles, San Francisco. 3 story frame & Stucco construction. GENERAL CONTRACTOR: Swinnerton & Wallberg, San Francisco.

JUVENILE HALL BUILDING, San Leandro, Alameda County. County of Alameda, owner. $1,800,000. ARCHITECT: Kent & Hass, San Francisco. 1 & 2 story, reinforced concrete construction, main building. 2 story will contain; administration courtrooms, infirmary, 4 bldgs. for 20 boys each, 1 building for 20 girls and 1 building for dependent children, gym baseball diamond. GRADING RETAINING WALL & SITE WORK: Swinerton & Walberg, Oakland.

NEWSPAPER BUILDING ADDITION & REMODEL, Fresno County. McClatchy Newspapers, owner. $600,000. ENGINEER: Lockwood Greene Engineers Inc, New York. New press & mail room, new entrance lobby, new elevator, reinforced concrete construction. GENERAL CONTRACTOR: Trewhitt, Shields & Fisher, Fresno.

NEWSPAPER ADMINISTRATION BUILDING, Sacramento, Sacramento County. McClatchy Newspapers, owner. $900,000. ENGINEER: Lockwood Greene Engineers Inc., New York. 3 story, reinforced concrete construction. GENERAL CONTRACTOR: Lawrence Construction Co., Sacramento.

FREEPORT MANOR GRAMMAR SCHOOL, New Grammar School, Sacramento, Sacramento County. Sutterville Heights Elementary School District, owner. 7 classrooms, kindergarten, administration, all-purpose room; 10 classrooms, kindergarten, administration, all-purpose room, $467,067. ARCHITECT: Koblik & Fisher, Sacramento. Frame & stucco construction. GENERAL CONTRACOR: United Construction Co., Sacramento.

SWIMMING POOL, Sutter Creek, Amador County. Amador County High School District, owner. $45,486. ARCHITECT: Koblik & Fisher, Sacramento. Reinforced concrete construction. GENERAL CONTRACTOR: Affiliated Engineers & Contractors, Sacramento.

MEDICAL BUILDING, San Rafael, Marin County. Marin Medical Center, Inc., owner. 25 suites of offices, surgery room, & drug

store, $219,852. ARCHITECT: George Lykos, San Diego. 1 & 2 story, frame & Stucco construction & Brick veneer. GENERAL CONTRACTOR: Litchfield Construction Co., San Rafael.

PERSONNEL & TIME BUILDING, Emeryville, Alameda County. Parrafine Companies, owner. $86,127. ARCHITECT: Albert F. Roller, San Francisco. Frame Construction. GENERAL CONTRACTOR: Dinwiddie Construction Co., San Francisco.

SOUTHWOOD-BRENTWOOD SCHOOL, South San Francisco, San Mateo County. So. San Francisco Unified School District, owner. 6 classrooms, 2 kindergartens, administration, multi-use & toilet room, $272,-918. ARCHITECT: John Lyon Reid, San Francisco. Light steel frame & frame & stucco construction. GENERAL CONTRACTOR: Harris & Fjeldheim, Menlo Park.

BANK BUILDING San Francisco. American Trust Co., owner. $102,888. ARCHITECT: A. Appelton & H. N. Wolfard, San Francisco. 1 story, 5,000 sq. ft., reinforced concrete construction. GENERAL CONTRACTOR: Williams & Burrows, Burlingame.

SURF RIDER HOTEL, Honolulu, Hawaii. Hawaiian Hotels, Division of Matson Navigation Co., owner. 144 rooms, $1,000,000. ARCHITECT: Wimberly & Cook, Honolulu; Gardner A. Dailey, San Francisco. 7 story, reinforced concrete & structural steel construction. GENERAL CONTRACTOR: Hawaiian Dredging Co., Honolulu.

SHOPPING CENTER. Walnut Creek, Contra Costa County. MacDonald Products Co., owner. Lucky market, Penney Store, Woolworth Store, Medical Building, Union Oil Station & 11 other store buildings, $2,000,-000. ARCHITECT: Robt. Lisles, San Francisco; STRUCTURAL ENGINEER, Byron Nishkian, San Francisco. 1 story & basement, approximately 200,000 sq. ft. of buildings, reinforced concrete construction.

GRAMMAR SCHOOL ADDITION, Santa Cruz, Santa Cruz County. Live Oak Elementary School District, owner. 8 classrooms, kindergarten, toilet rooms, $182,000. ARCHITECT: Lynn R. Duckering, Santa Cruz. Frame & stucco construction, some structural steel, steel sash, radiant heating, asbestos shingle roofing. GENERAL CONTRACTOR: Geo. Bianchi, San Jose.

HILLSIDE PRIMARY SCHOOL, Berkeley, Alameda County. Berkeley Board of Education, owner. $109,781. ARCHITECT: Donald Powers Smith, San Francisco. Frame & stucco construction. GENERAL CONTRACTOR: Intra State Builders, Berkeley.

PAROCHIAL SCHOOL, RENO, NEVADA. Roman Catholic Bishop of Reno, owner. 4 classrooms, $77,794. ARCHITECT: Russell Mills, Reno. Brick, reinforced concrete & frame construction. GENERAL CONTRACTOR: Geo. Panicari, Reno.

OFFICE BUILDING, Oakland, Alameda County. Alameda County East Bay Title Ins. Co., Oakland. $400,000. STRUCTURAL ENGINEER: R. H. Cooley, Oakland. 2 story & basement, 70 x 150, structural steel frame, masonry walls, steel floor deck, steel stud & plaster partitions, marble, granite, plate glass front, 1 elevator, steel stairs. GENERAL CONTRACTOR: John J. Moore Co., Oakland.

NORTH BEACH HOUSING PROJECT, San Francisco. Housing Authority of the City of San Francisco, owner. 299 units, $2,140,-877. ARCHITECT: Henry H. Gutterson; Ernst Born, San Francisco. 13 3 & 4 story, 212,000 sq. ft., reinforced concrete buildings, concrete pile foundation. Central hot water heating plant. GENERAL CONTRACTOR: Leo Epp Inc., San Francisco.

SHOPPING CENTER, Sacramento, Sacramento County. M. . King, owner. 10 stores & offices, $178,000. ARCHITECT: Bruce E. Heiser, San Francisco. 1 story, frame construction, mill type construction, some structural steel.

MEMORIAL HOSPITAL, Corning, Tehema County. Corning Memorial Hospital District, owner. $329,459. ARCHITECT: Albert W. Kahl, San Mateo; STRUCTURAL ENGINEER: Geo. Washington & Felix H. Spitzer. 1 story & part basement, reinforced concrete & frame & stucco construction, reverse cycle heat pump for heating & cooling. GENERAL CONTRACTOR: Central State Construction Co., San Francisco.

STUDENT CENTER BUILDING. Berkeley, Alameda County. Lutheran Student Center, owner. $55,000. ARCHITECT: Oakie C. Johnson, Oakland. 2 story & basement, concrete block & frame construction. GENERAL CONTRACTOR: Calif. Cabinet & Fixture Co., Berkeley.

SUNDAY SCHOOL BUILDING, Walnut Creek, Contra Costa County. St. Pauls Episcopal Church, owner. $77,000. DRAFTSMAN: Julian F. Taylor & Assoc., Berkeley. Frame & stucco construction. GENERAL CONTRACTOR: Romley & Prentice, Walnut Creek.

WAREHOUSE BUILDING, Oakland, Alameda County. Port Warehouse, Inc., owner. $350,000. STRUCTURAL ENGINEER: J. Y. Long Co., Oakland. 1 story, 105,000 sq. ft., reinforced concrete construction, wood roof trusses, steel sash. GENERAL CONTRACTOR: Van Bokkelen-Cole Co., Oakland.

OFFICE & PAINT WAREHOUSE—REMODEL. Sacramento, Sacramento County. W. P. Fuller Co., owner. $73,718. ARCHITECT: Koblik & Fisher, Sacramento. GENERAL CONTRACTOR: Bingham Construction Co.

SOCIAL WELFARE BUILDING, Nopa, Napa County. County of Napa, owner. $62,997. ARCHITECT: Russell De Lappe, Berkeley 1 story, concrete block & frame construction. GENERAL CONTRACTOR: C. C. Henry & Son, Napa.

NEW BREAD PLANT BUILDING, San Jose, Santa Clara County. Sunlite Bakery, owner. $262,200. ARCHITECT: Donnell E. Jaekle, San Jose. 1 story, 90,000 sq. ft., reinforced concrete & structuarl steel frame, wood roof, sprinkler system. GENERAL CONTRACTOR: Lew Jones Construction Co., San Jose.

APARTMENT BUILDING, San Francisco. Amanze & Angeli, owner. 18 apartments, $70,000. ARCHITECT: H.C. Baumann, San Francisco. 3 story, frame & stucco construction. GENERAL CONTRACTOR: Brendan, San Francisco.

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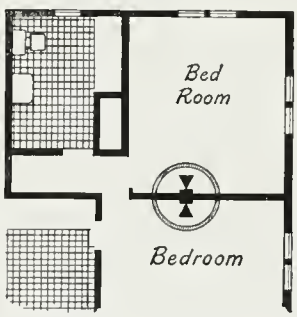
Where to plan double telephone outlets in new homes



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IN THE NEWS

MADERA SCHOOL EXPANDS

The Madera School District has announced plans for the construction of a new Junior High School, and two new Grammar School buildings at an estimated cost of $1,165,000.

Chas. D. James of Madera is the architect.

BECHTEL PURCHASES ENGINEERING BUILDING

The San Francisco Engineering functions of the Bechtel Company will be housed under one roof with purchase of the building at 101 California Street. Two buildings are included in the purchase comprising some 47,000 sq. ft.

BANK SITE PURCHASED

The Hiberma Bank of San Francisco has purchased the southeast corner of West Santa Clara and San Pedro in San Jose and plans to erect a new bank building on the site in the near future.

Selection of an architect has not been made.

OFFICE ADDITION

The Hartford Fire Insurance Company have applied for a building permit to add two stories to the present four story building now occupied by the company at 720 California Street in San Francisco.

Cost of the construction will approximate $450,000.

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Weihe, Frick & Kruse, San Francisco, are the Architects, and the Dinwiddie Construction Company the general contractors.

SCHOOL FUNDS APPROVED

The State of California has approved a grant of $600,000 to the Union Elementary School District of Los Gatos for the construction of a new Grammar School addition comprising 18 classrooms, plus utility offices, and a eight room new Grammar School building.

Higgins & Root, San Jose, are the architects.

SCHOOL BONDS VOTED

Voters of the Penryn Elementary School District, Penryn (California) recently approved a bond issue of $142,000 for the purpose of building a new six classroom Grammar School. The building will include an office, kindergarten and toilet rooms.

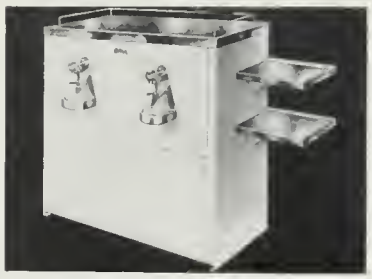
Gordon Stafford, Sacramento, is the architect.

ARCHITECT NAMED CHAIRMAN

Stiles Clements, Architect, has been named chairman of the 1951 March of Dimes Campaign in the Construction Division of the Commerce and Industry Committee of Los Angeles.

NEWEST ADDITION TO DRINKING FAUCET LINE

The newest addition to the Haws Drinking Faucet Co's line is an improved type of electric water cooler for restaurant and cafeteria use.



The modern cabinet is of white enamel with stainless steel top, trays and water stations; chrome rail around top protects glassware; top area holds 100 glasses; four side trays hold 20 glasses each; automatic closing, push-back type fill-glass faucets are chromium finished. Capacity five to forty gallons per hour.

JOINS NATIONAL GROUP

Gladding-McBean & Co. of Los Angeles, the Pacific Clay Products Co. of San Francisco, and the Washington Brick and Lime Co. of Spokane, Washington were among nine manufacturers of architectural terra cotta and ceramic veneer that became affiliates of the Structural Clay Products Institute at the association's recent national meeting at Colorado Springs, Colorado.

BUILDING WINS AWARD

The General Petroleum Building, Los Angeles, designed by Welton Becket and the architectural firm of Wurdeman and Becket, has been awarded the Office of the year award as one of the three best new American office buildings employing more than 500 people.

The award was presented recently in New York City as a feature of the National Business Show.

The 13-story General Petroleum Building has become one of Los Angeles' leading landmarks since its completion last summer.

OPENS ARCHITECTURAL OFFICE

Charles O. Matcham, A.I.A., architect has opened new offices in the General Petroleum Building in Los Angeles.

Matcham was formerly associated with the architectural firm of Heitschmidt & Matcham, Los Angeles.

FHA OPENS OFFICE SANTA BARBARA

A branch office to the Los Angeles district has been opened in Santa Barbara to serve Santa Barbara, San Luis Obispo and Ventura Counties, according to John E. McGovern, director, southern California District, FHA.

The new offices are located in the Balboa Building.

HOUSING PROJECT

The first units in the $8,000,000 Union housing project on Lincoln Place in Venice (California) were opened recently.

The development includes 795 one and two-bedroom apartments in the low rental classification.

ARCHITECT FIRM CHANGES

The architectural firm of Cejay Parsons & Associates recently announced its reorganization as a partnership and is now operating under the firm name of Cejay Parsons, Architect, Los Angeles.

Partners in the organization in addition to Parsons are E. A. Daniell, San Marino builder; Marshall J. Henderson and Edward A. Daniell, Jr., also of San Marino.

The firm specializes in commercial and industrial buildings.

INDUSTRIAL BUILDING UP

New Construction for industrial purposes in Los Angeles has shown a steady upward trend since the close of World War II. The month of September alone shows an increase of 236 per cent over the same month of last year.

ARCHITECT SELECTED

Hugh Gibbs, Long Beach architect, has been selected to prepare site plans and design buildings for the new long Beach State College.

Plans call for the development of a permanent campus east of Long Beach in the near future.

FACTORY SITE

The William Wrigley, Jr., Company of Chicago have purchased the property at Mission and W. Cliff Drive in Santa Cruz, and contemplate the construction of a new Chewing Gum Factory.

According to company officials the plant will cost some $3,000,000 to build.

NEW DEPARTMENT STORE

Sears, Roebuck & Co., has begun construction of a new $4,000,000 store at Geary Blvd., and Masonic Avenue in San Francisco.

The three story and basement structure will provide parking for 1,000 automobiles on six different levels, including the roof. It will contain 196,946 sq. ft. in addition to 6500 sq. ft. of car service area.

The building is expected to be completed in the fall of 1951.

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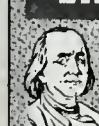
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SHOPPING CENTER

Harold S. Johnson, architect is working on large one story building in the new Bellflower shopping center.

The project representing a cost of $250,000 includes several large buildings including an addition to the J. C. Penney Co. store.

BEACH PAVING CONTRACT

Sully Miller Contracting Company have been awarded a $136,482 contract by the Orange County Board of Supervisors for grading and paving more than 2 miles of the Doheny Palisades.

The improvement is one of the largest residential paving projects in the Capistrano Beach area of southern California.

HEALTH BUILDING

Plans have been announced for the construction of a $377,000 County Health Building at the San Jose County Hospital Grounds, according to the Santa Clara county board of supervisors.

Kurt Gross of San Jose is the architect.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, AND CIRCULATION REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233)

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2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.)

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4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required from daily, weekly, semiweekly, and triweekly newspapers only.)

L. B. Penhorwood, Business Mgr.

Sworn to and subscribed before me this 29th day of September, 1950.

(SEAL) IRENE CRESPI

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(My commission expires Jan. 3, 1951)

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• ARCHITECT AND ENGINEER

VOL. 183 No. 3

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COVER PICTURE:

FIRST NATIONAL BANK OF ARIZONA—Phoenix

Designed by architect Welton Becket this 17-story bank and office building has two walls entirely of glass and a "floating screen" of fixed aluminum louvers protecting the top twelve stories of the south elevation from the desert sun. These 180 ft. screens will be suspended a few feet from the facade of the building and will not obscure view from office windows.

Building covers major portion of city block; contains 200,000 sq. ft.; outside is one way drive-in-bank; contains offices, recreational facilities, garage, and public offices.

ARCHITECT & ENGINEER is indexed regularly by ENGINEERING INDEX, INC.

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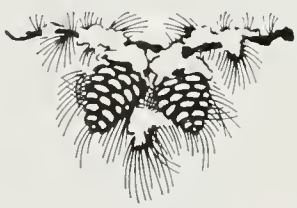
Season's Greetings

Strange, how a simple pile of wood
Can start a passion in our hands
Can strike an answer in our blood
To build a sturdy house that stands
Against the wind and world and weather—
A house that binds our hearts together:
The resined silkiness of pine,
The birch's satin, slick and fine,
The dancing dust, the golden motes,
The fragrant yellow cloud that floats
Above the hickory and oak,
While men sweat in that golden smoke
To cut, saw, plane, trim bevel, shape
From wood the eager heart's escape—
Strange, how a simple pile of wood
Will speak of human hardihood.

—Joseph Auslander



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JOINT INFORMATION COMMITTEE

AMERICAN INSTITUTE OF ARCHITECTS and THE PRODUCERS COUNCIL, INC.

A SYSTEM FOR BETTER SPECIFICATIONS AND MANUFACTURING LITERATURE

Which Will Help the Architect, Contractor, Manufacturer and Trades

By F. BOURN HAYNE, A. I. E.*

(PART 11)

All seem to forget that the specifications are written for some sweating foreman, carpenter, or plumber, who just doesn't like too many words of unnecessary instruction. A meeting of all these minds is certainly in order so that everybody can be happy without impairing anyone's individuality; thus the need for the establishing of a specification system.

Not only is a specification system necessary, but also a reliable source of building information for both young and old architects which can be kept up to date with the least possible effort. Materials and methods change rapidly, and often an architect can find himself way, way behind in the developments of some phase of building. **The young, newly-licensed architect, who is a very important factor in the modern design of today, is especially handicapped in this lack of specific knowledge of materials and methods.** The tendency is for him to stumble along for a long, long time, making numerous needless errors in countless little ways that make client, contractor, and carpenter point with contempt at him and at the architectural profession. Not only is the young practitioner handicapped in this respect, but even the old timer, since pamphlets and catalogues of new materials and methods fill the daily mail in an endless flow of good and bad ideas. As far as I know, there is no exact source to which any architest can turn for quick and sure information regarding many vital questions connected with the building profession, especially the new, untried materials and methods.

Some months ago I attended a luncheon given by a large paint company and learned that great changes have been made in the manufacture of paints since the war, and that my own specifications were sadly lacking and out of date. When I did get around to this task of rewriting them, just where could I turn for exact and proper information. My only ready source of information was Section 25 in my A.I.A. Standard Filing System for Materials, Appliances, etc., which I have done my best to keep in fairly good order. I find in Section 25 about five inches of pamphlets, pictures, and color cards all about various kinds of paints, all information put out by various manufacturers booming the virtues of their own product. Out of this mess of colored pictures and plates, I had to try to dope out the technical changes that have occurred in the paint industry during the last few years and then revise my own specifications. But what I don't like is that my only source of information was from the manufacturers who want to sell their product to a gullible public through gullible architects.

Another astonishing fact was pointed out to me some time ago by a salesman of a nationally recognized concern. He told me that in their master specifications for the installation of their product they were forced to leave out a certain important step that required a little more labor in order to meet competition. He advised me to write in my specifications this extra labor process for the best type of job but not to trust entirely on "manufacturer's specifications" as published in his catalogue. In other words, the majority of specifications put out by architects are often a series of clippings copied from sources supplied by unprofessional manufacturers. None of this is quite right, and I am constantly disturbed by the fact.

WHAT CAN THE A.I.A. DO?

The American Institute of Architects is the logical representative of the profession to keep the individual architect and the entire building industry better informed regarding the thousand and one changes and findings that are continually taking place. It is the job of the A.I.A. to set a STANDARD! Architectural magazines have their policies, but must think of their advertisers first. Many of their articles are far too long for the average architect to absorb fully and file. Manufacturers must think of their sales and competitors first, and the professional standards of the architect are really none of their business. What then can the A.I.A. do to help the architect, young and old, in really tremendous task of keeping abreast of the important building events of the times and furnish-

(See page 36)

* *SECOND in a series of three articles specially prepared by Architect Hayne.*

NOTE: This news space is being contributed by ARCHITECT & ENGINEER Magazine to the JOINT INFORMATION COMMITTEE representing the Northern California Chapter of The American Institute of Architects and the Northern California Chapter of the Producer's Council, Inc., and is available to this Committee for the purpose of bringing to the attention of leaders within the Construction Industry various phases of the Architectural profession and building materials industry procedures for general consideration and comment. Your "ideas" and any suggestions for the better pooling of thoughts along these lines should be sent to "Joint Information Committee, c/o The Architect & Engineer, 68 Post Street, San Francisco," where they will be immediately forwarded to the proper committee members.

THE CONTROL OF NOISE IN BUILDINGS

By CYRIL HARRIS
Technical Staff, Bell Telephone Laboratories

(PART II*)

Sound-absorptive materials are extremely useful for controlling noise in buildings. Not only do they reduce the noise which is transmitted into a building from the outside, but they are effective—frequently indispensable—in controlling noise which is generated within the building. Materials which have been especially designed to function primarily as sound absorbers are popularly known as "acoustical" materials. Commercially available products include prefabricated acoustical tiles, acoustical plasters, and blankets which have been fabricated from very porous materials such as glass wool. No one of these is the best for all jobs. For a particular installation, one's choice of an acoustical material should, of course, include a consideration of its sound absorptive properties—choosing one that will meet the acoustical reqirements of the installation. On the other hand, it is important not to overlook consideration of other characteristics of the material such as fire resistance, light reflection, decorative possibilities, structural strength and maintenance costs.

Acoustical materials provide one of the means by which air-borne noise can be reduced at its source. An installation of acoustical material is usually helpful because it reduces the over-all noise level in a room; it helps to localize the source of noise to the region of its origin; and it reduces the annoying effect of reverberation.

The sound absorptivity of commercially available acoustical materials is usually expressed in terms of the average "absorption coefficient" of the material, which represents the fractional part of incident sound waves that is absorbed by the material.

The question arises as to how much absorption there shoud be in a room for purposes of noise reduction. It is important to realize that if there is already a considerable amount of properly placed absorptive material in a room, then the addition of acoustical material may not show any marked beneficial effect from the standpoint of over-all noise reduction—here the law of diminishing returns operates. The following rule-of-thumb is useful in estimating, roughly, the number of units of absorption needed in a room where quiet is a prime requirement: Use enough absorptive material to provide a reverberation time of about ⅔ to ¾ of the optimum for speech in that room. The total absorption in a room, which we represented by the letter **a** in the equation given earlier, is determined by multiplying each of the surface areas in a room by its respective absorption co-efficient, then summing all of these products. Incidentally, the absorption supplied by people in the room should be included. This contribution to the total absorption can be quite considerable in some buildings—for example, in a theater, assuming a full house.

Since the absorptivity of an acoustical material varies with frequency, it is often important to choose one on the basis of the absorptivity-vs-frequency characteristic best suited to reduce the level of the noise to be suppressed. For example, in a building where the noise is predominantly in the low frequency range, one should make certain that the sound-absorptive treatment which is installed is efficient in this range.

For noise reduction purposes, the placement of acoustical materials in a room depends to a large extent on the shape of the room. Satisfactory results will be obtained in most rooms, for example, offices, if the acoustical treatment is applied to the ceiling, provided that the ceiling height is less than about 12 feet. For greater heights, it is usually important that some of the acoustical material be placed on the side walls. In general, the absorption in a room must be increased at least by a factor of 3 before a noticeable improvement in noise reduction is obtained. However, in the case of a high-ceilinged room in which all the acoustical treatment is on the ceiling, the addition of a fraction of this amount of

*EDITOR'S NOTE—*This is the second and final part of the text of an Address delivered by Cyril M. Harris, at the National Noise Abatement Symposium, Chicago, which was sponsored by the Armour Research Foundation of the Illinois Institute of Technology and the National Noise Abatement Council.*

absorption in the form of patches on the side walls may provide a marked improvement.

In applying acoustical materials for the control of noise in buildings, it is important not to overlook the treatment of corridors and stairwells. In many buildings, there are short passageways separating areas which should be quiet from areas that are noisy. These passageways should be treated as "sound-locks"; that is, the walls and ceiling should be a hightly-absorptive acoustical material to aid in the isolation of these areas. Thus, such sound-locks are useful in a restaurant in preventing kitchen clatter from disturbing the dining room patrons. Similarly, it is a good idea to treat the foyer which separates a door opening on to a noisy street from private offices. In cases such as this one, it is poor economy to apply acoustical material only in the private offices; it is equally important to treat the foyer and reduce the level of the noise which is fed into the offices.

In discussing the means by which noise is propagated in buildings, I used two principal classifications: air-borne and structure-borne sound. Of course, provisions should be made to prevent the communication of both types of noise. We have discussed some of the problems involved in the suppression of air-borne sound—the selection of proper wall structures and the use of acoustical materials.

Now let us consider briefly the problem of structure-borne noises. Wherever it is practical to do so, solid-borne energy should be reduced at its source. Previous speakers have indicated methods for reducing such noises arising from machinery and ventilation equipment, so we will not dwell on it here. However, I do want to emphasize the importance of suppressing noise from machinery vibration in the general problem of control of noise in buildings. Another common source of structure-borne vibration which is particularly objectionable in multiple dwelling units is that which arises from the plumbing. Quiet fixtures should be selected and properly installed to prevent the transmission of hammer-like and swishing noises. Wherever practical, the pipes should be isolated from the building structure. Where they are suspended from the ceiling, a resilient support should be used; and where they penetrate walls, they should be isolated from the partition by a compliant material such as felt, making sure that no cracks are left around the pipe that would reduce the over-all effectiveness of the wall for air-borne sounds. The insertion of a short length of flexible hose in the pipe can provide substantial reduction in the transmitted vibration.

Where quiet is a prime requirement, as in libraries, it is important to consider such details as the use of wagons with quiet rubber-tired wheels, the suppression of noise which arises from the pushing of chairs and the reduction of the clatter of footfalls. I would like to show the following cross-sectional drawing of a commercially available chair-glide which illustrates one general method of noise reduction. A chair, when pushed along a floor, ordinarily produces a racket because vibrations which arise from the frictional forces between the floor and legs are transmitted to the larger areas such as the seat, and radiated efficiently as noise. The glide shown here reduces the transmitted vibration by the insertion of a resilient member between the source of vibration and the radiating surfaces, and hence suppresses the noise which is generated in the room in which the chair is being pushed. Resilient floor coverings such as linoleum or rubber tile should be used to reduce the noise that is produced by footfalls and other impacts. Furthermore, a resilient floor covering is important from another aspect in the control of noise in buildings. It reduces the impact energy that is communicated to the building structure—energy which is transmitted efficiently by the structure, and radiated elsewhere in the building. By employing a resilient floor construction, commonly referred to as a "floating floor" the energy of impact that is communicated to the building structure can be reduced to an even greater extent.

The following figures shows one type of resilient floor construction which employs a commercially available sleeper chair. It is also possible to use rubber, cork, and other materials as the resilient member between the floated finish-floor and the structural floor. The value of such a construction depends on the complete isolation between the finish-floor and the structural floor. Therefore, it is very important that this isolation is nowhere bridged by solid connections.

The principle of the suppression of solid-borne vibration by the placement of discontinuities in the transmission path is incorporated with the advantages of multiple wall structures in the so-called "discontinuous" construction. Here the walls of the room are built on a floating floor and the ceiling is suspended by resilient hangers. Essentially, the rooms in such a building are treated as a "box within a box." At the present time, the cost of this type of construction has limited it to special jobs where a very high degree of noise insulation is essential.

I think you will agree from a consideration of some examples that have been cited here that some improvement in the control of noise in buildings can be had by intelligent planning with little or no cash outlay. By the suppression of needless machinery noise and vibration the problems of

(See Page 41)

NEWS AND COMMENT ON ART

CALIFORNIA SCHOOL OF FINE ARTS SCHOLARSHIP

Friends of the late Agnes Brandsenstein are establishing through the San Francisco Art Association, a memorial scholarship in Ceramics at the California School of Fine Arts.

The Scholarship will be offered to any person who has displayed through previous work an ability to specialize in this field. Free tuition and studio fees for three periods per week for two semesters will be awarded.

Selection of the winner of the award will be made by the Faculty of the School.

ART GOES TO SEA

A unique collection of contemporary American art, which is to be installed aboard America's newest luxury liners the S. S. Independence and the S. S. Constitution, was recently exhibited in New York City.

Artists whose work was included in the exhibit include: Joe Jones, Morristown, New Jersey; Emile Norman, Big Sur, California; John H. Jacoby, New York City; Lawrence Kupferman, Boston, Mass., Gibbs & Cox, New York City; Bruno Mankowski, New York; Max Spivak, Garden City, Long Island; Edmund Lewandowski, Tallahassee, Fla.; Henry Billings, Bronxville, New York; Anton Refregier, Woodstock, New York; and Frank and Getel Nastasi, New York.

CITY OF PARIS

The Rotunda Art Gallery of the City of Paris, San Francisco, under the direction of Mrs. Beatrice Judd Ryan, will feature an exhibit of paintings, portraits and landscapes, and ceramics by Gladys Lloyd Robinson during the month of December.

Gladys Lloyd Robinson has achieved national recognition as a painter and her work has been characterized at "fresh and exciting."

PORTLAND ART MUSEUM

Thomas C. Colt, Jr., Director of the Portland Art Museum, West Park and Madison, has announced the following exhibitions and events for the month of December:

A special exhibition of the paintings of the Northwest Trio, Tobey, Graves and Callahan; the 2nd Annual Oregon Print exhibition, a juried show open to all Oregon artists; the Torii School, Part I, which is the second of a series of Japanese print shows drawn from the Museum's collection; and The Christmas Story, in paintings, prints, sculptures which also represent items from the Museum's collections.

The Museum is free at all times and is open daily, and on Wednesday evening.

SAN FRANCISCO MUSEUM OF ART

The San Francisco Museum of Art, War Memorial Building, Civic Center, has announced the following exhibitions and events for the month of December:

EXHIBITIONS—Modern Christmas Tree Garden; modern Christmas ornaments and mobiles; Christmas Murals by Bay Region Artists; Art At a Price! by Bay Region Artists; Bender Memorial Exhibition; Selected European Masters; 25th Annual Exhibition of the San Francisco Society of Women Artists; Watercolors and Drawings by Madiha Umar of Iraq; and a display of Sculpture by Jacques Lipschitz will open on January 5.

EVENTS. Sunday afternoon lecture discussions at 3 o'clock (Barbara Fitzwilliams and Allon Schoener); Art for the Layman, Tuesday mornings at 10 o'clock; Famous Film Series each Tuesday evening at 8; Children's Saturday morning art classes, 10 to 11, conducted by Marie Sandow.

Dr. Edith and Sir Osbert Sitwell, distinguished British writers, will give a program of reading of poetry by Shakespeare at the Museum on Monday evening, January 15 at 8:30.

M. H. DE YOUNG MEMORIAL MUSEUM

The M. H. de Young Memorial Museum, Golden Gate Park, will feature the 11th annual exhibition of art by the Society of Western Artists showing oils, watercolors and sculptures. First awards in the event were won by Leonard Kester's "Rainy Thursday" oil; Louis J. Hughes' "Stormy Days," water color; and Wendell N. Gates' "Time Out," sculpture.

The jury of selection and awards was comprised of Alexander Fried, chairman; Ninfa Valvo, Maurice Logan, Frank Myers, and Marques E. Reitzel.

MARBLE PRODUCERS FELLOWSHIP

Dr. Edward R. Weidlein, director of the Mellon Institute, Pittsburgh, Pa., has announced that the National Association of Marble Producers has established a Fellowship whose program of research is concerned with the development of specifications for marble for both outside and inside uses, with respect to stability and durability for building purposes.

Corner Location BEFORE Start of Remodel

Commercial National Bank

Santa Anna, California

STILES CLEMENTS,

Architect

Architect Stiles Clements of Los Angeles who is well known for his policy of practicing a thorough design program on all projects he undertakes, decided in the case of the Commercial National Bank of Santa Ana, where the problem was one of modernizing a very old building, to remove all exterior and interior effects other than structural, and start reconstruction from just the naked building.

Removal of all exterior terra-cotta ornamentation and undesirable windows was the first step taken to simplify design. Where windows were maintained on the second floor of the Main Street and Fifth Street elevations, aluminum louvers were effectively used to conceal them and gain control of the sunlight, since both of these elevations face the south and west. The louver area is simply framed, which forms a natural sill for the bank's name sign.

Existing face brick was covered with cement plaster and scored to a pleasing pattern.

The south elevation represents a window wall for the banking area. Here, where the windows extend from a normal sill height to the ceiling and almost the length of the active banking area, aluminum louvers are again employed for sun control. These louver areas are separated by marble columns aiding the facade design's character as a banking and financial firm. At the base of the marble column a planting box is introduced so

that the irregular shape of the planted foliage will offer a pleasing and welcome contrast to the straight, hard lines of the building materials.

A very unique feature of this elevation of the bank is an outside teller's window which permits customer banking from the street without entry into the main portion of the building. All entry doors are tempered glass with plate glass sidelights.

A great deal of structural and architectural design study was devoted to the entire interior treatments of the bank due to the completely worn out building to be remodeled and the unadaptability of practically all of the existing conditions.

The interior walls and the column ornamentation of the old building, a style which has long been outmoded, was completely removed by the contractor, and in reconstruction the exposed beams have been concealed by a suspended plaster ceiling. A suspended plaster coved ceiling, at a lower level, was employed for installation of the general illumination and for the air conditioning duct work. This arrangement is in effect a built-in lighting fixture extending the entire length of the banking area.

The actual lighting fixture is located in a central position over the existing structural columns, thus forming one integral design feature, as well as an ample air supply.

All counters, office area railings and wainscots are finished in attractive natural birch. The public space and bank officers' area is completely carpeted. Employees work areas have been covered with asphalt tile floors over a suitable base.

The bank's bookkeeping area is not enclosed in a separate room from the tellers and other bank operations, so the bank's customers and the public can view the busy, behind the scenes, activities which is much to the advantage of creating a wholesome business impression in the city and community.

The walls and ceiling of the bookkeeping area, however, are faced with acoustic tile for complete sound control and the illumination has been designed by the architect for a maximum reduction of eye strain. The color scheme is a quiet one, thoroughly in keeping with the long established institutional policies of the bank's president Mr. A. C. Hassenjaeger, and entirely complementary to a modern banking atmosphere.

The completed Commercial National Bank of Santa Ana is an excellent example of the architect working in close harmony with the structural, mechanical, and electrical engineering problems and the masterfully results obtained from the coordination of all of these elements.

COMPLETED work gives building ultra-modern look

Looking East Along Bush Street *Moulin Studios*

San Francisco's Newest

22-STORY SKYSCRAPER

ANNEX TO HOME OFFICE

STANDARD OIL COMPANY

OF CALIFORNIA

ARCHITECTS:

Harry T. Thompsen

Aleck L. Wilson

STRUCTURAL ENGINEER:

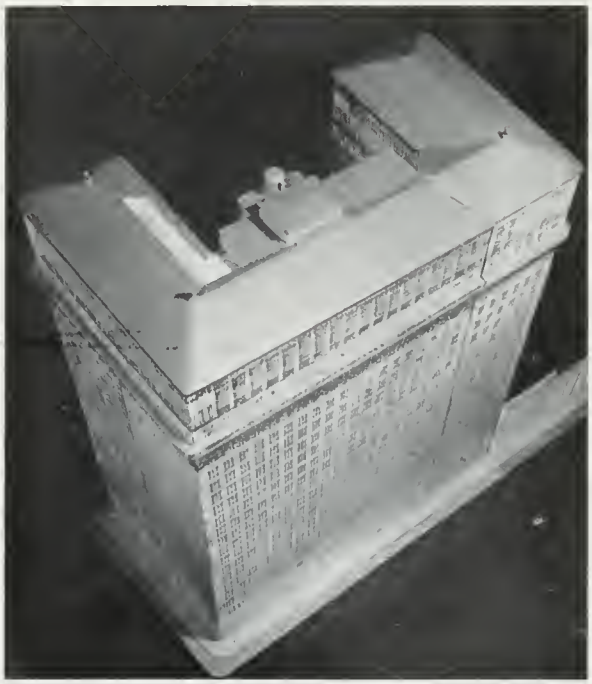
H. J. Brunnier

MECHANICAL & ELECTRICAL ENGINEER:

Thomas B. Hunter

GENERAL CONTRACTOR:

Swinnerton & Walberg Co.



MODEL OF THE COMPLETE BUILDING

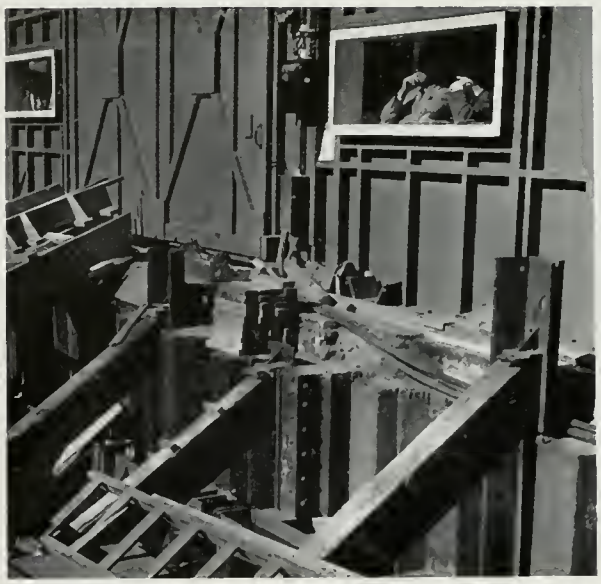
The new annex is shown on the right.

It matches in every detail the architectural design and embellishments of the previously existing building.

Each floor contains 6600 square feet and the addition will provide for approximately 1400 additional employees.

(Ken Reichard, Photo)

SKYSCRAPER . . .



HEAVY timber shoring of steel sheet piling is blacked against chip angles . . . note the interlocking piling is burned off even at top.

Progressive West Coast industries are not only expanding manufacturing and operational facilities to take care of present business needs, but many far sighted firms such as the Standard Oil Company of California are including in their present construction program a thought of considerably expanded business throughout the West and far East.

Architects, engineers, artists, corporation directors and civic leaders are thinking today in terms of tomorrow, and a fuller realization of the opportunities being presented for accomplishment of professional effort and business development.

Outstanding example of the coordination of architectural, engineering, construction and business effort is the new twenty-two story annex to the Standard Oil Building which has recently been completed in San Francisco. It is the tallest building to be erected in San Francisco since 1929, and is one of the tallest buildings to be built on the West Coast in a good number of years.

The $4,000,000 addition to the main office building increases working facilities by nearly 50 per cent, with the addition of executive offices, staff executive offices, general office space, and a number of areas devoted to the general operation of a large corporation.

SIDEWALK PROTECTION—is turned from an objectionable incanvenience into an advertising feature. White background, blue and red lettering, and blue trim present a neat appearance. Red night lights are regular electric fixtures rather than lanterns. Plate Glass porthales are povided for "Sidewalk Superintendents". A time schedule is given stating the number of weeks required to complete the next phase of construction. The thermometer indicates the percentage of construction completed.

(Photos by Cal-Pictures)

The annex is located on the west side of the main building on Bush Street and forms a "U" shape with the complete structure as a single unit.

The twenty-two stories represent an additional space of 6600 square feet per floor, or a total of 143,200 square feet. On the basis of 100 square feet being required for each employee, the annex provides for the addition of approximately 1432 workers, which will make a total of more than 3000 persons employed in the entire building.

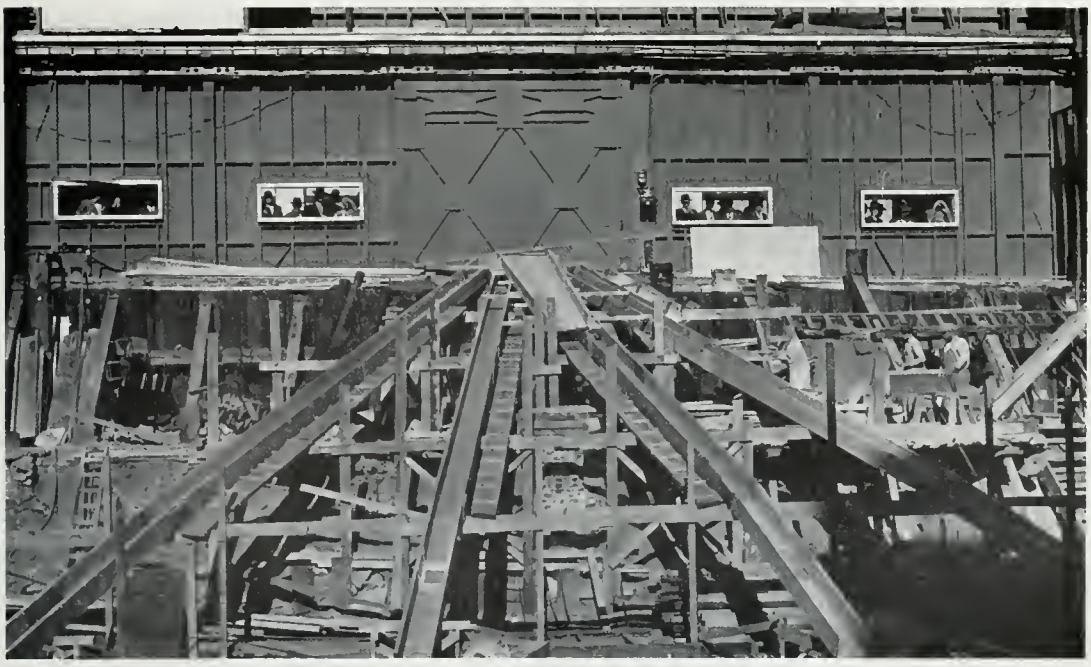
Preliminary to construction of the new addition, it was necessary to raze a five story building which was located on the site, and a number of very interesting architectural and engineering factors were involved.

Architecturally it was desired to adhere to the design of the original building which was erected in 1923 so that the completed structure would represent a single unit in design and appearance, rather than two separate buildings. This was accomplished by architects Harry A. Thompsen and Aleck L. Wilson in close cooperation with the Company Building Design and Construction Department. The completed building shows how completely this objective was obtained.

In making test borings for the foundation, several different strata of sandfill, saturated sand, loam, clays, and running water were encountered before bedrock was reached at 145 feet and 185

Moke-Ready-Steel mat reintorcing in toreground . . . Foundations of old five story building may be seen in center back around steel sheet piling to left and right.

CONCRETE CHUTES and "Sidewalk Superintendents" observation ports as seen from the inside—Top loyer of reinforcing of 8 foot thick concrete mat foundation may be seen in the foreground. *(Cal-Pictures Photos)*



feet. The engineers decided that, as was the case in construction of the original building, a mat foundation would be used.

This concrete mat foundation covers the entire annex building site which is 67 feet 9 inches by 137 feet 6 inches. It was stiffened by reinforced concrete ribs eight feet or more deep set in a waffle pattern, with the ribs covering approximately 80 per cent of the mat area. To provide a full basement, however, as well as pits for a battery of six elevators, the mat was arranged in three sections and at the same time designed to be continuous. The front and rear sections of the mat have a bottom elevation of 26 feet 7 inches below the curb line which is seven inches below mean sea level.

The center section of the mat, where the elevator pits are located, drops to a bottom elevation of 37 feet 9 inches below the curb line and this is 11 feet 9 inches below mean sea level.

Two solid masses of reinforced concrete six feet thick and 19 feet high, running the full width of the site, tie these three sections together. The foundation mat alone required 3700 cubic yards of concrete.

Before any work could be started on the new foundation it was necessary to extend foundations of the adjoining three buildings down to a point two feet below the lowest level of the annex foundation mat. To accomplish this it was necessary to install caissons, some of which extended 27 feet below the old foundations.

Loose sand under the basement floors of adjoining buildings was impregnated with a special chemical solution which partially solidified the particles and prevented settlement and damage to the upper floors. Excavation material was removed in buckets, suction pumps were kept run-

GIANT SKELETON OF STEEL TAKES SHAPE

Construction Steel girders and reinforcing in place to make ready for pouring of concrete which has already started on the lower floors.

RECEPTION DESK

Modernistic reception desk area which is located in the lobby on the 21st floor.

TYPICAL OFFICE

The new annex provides approximately 145,000 sq. ft. of additional floor space with numerous offices being devoted to staff executives.

ENTRANCE-EXIT

Main lobby of new annex is simple in design—a series of magic-eye door openers are installed for convenience of public.

ning at all hours, and the work was carried on on a two shift basis of 15 hours per day.

High early concrete was poured into the forms up to a height one foot below the old foundation. Forty-eight hours later special hydraulic jacks equipped with recording gauges calibrated in tons were placed between the old foundation and the new. These jacks were then raised until the gauges recorded the total tons of building load that would actually bear on the underpinning section. After this pre-loading the jacks were removed and the remaining space filled with concrete.

One foot from all property lines interlocking steel sheet piling was driven into the clay strata to a depth of 20 feet below the bottom of the foundation mat, forming a steel wall which permanently protects the bearing soil under the structure from running water, shifting sand, or any future foundation work on adjoining property.

Three months were required and more than $1,000,000 was spent in completing the underpinning work.

Due to poor soil conditions resulting from this area being near the former waterfront, one of the engineering problems was the settlement of the building. The Home Office building having settled about six inches since its erection twenty-six years ago, it was problematical how much more the structure would settle, if any. After laboratory

Typical Office of a Staff Executive

MARBLE WALLS of the main lobby entrance is indicative of marble installations throughout the 22-story annex. Elevator entrances to all floors at right and left. Indirect lighting is used and marble is used for the floor.

compression and shear tests were made it was decided that the Home Office building had reached its final point of settlement, and that the annex could be held in a stable position on the concrete mat.

Structural steel was then set in place, reinforced concrete poured, and soon the annex became a reality. Corridors were cut between the two buildings; interior halls and offices and work areas finished; modern lighting, heating, and ventilation installed; elevators placed in service and the annex became a working part of the Home Office building.

While the annex contains the most modern equipment and facilities of a building designed today to meet tomorrow's needs, the beauty of the marble halls and marble floors of the main entrance lobby contributes immeasurably to the building falling into the category of "a thing of beauty is a joy forever."

Typical Executive Office

ONE of the smaller departmental general offices in the new annex—combination daylighting and indirect electrical lighting provides ample light while floor and ceiling construction minimize noise.

FIFTEEN story tower dominates group of modern research center buildings.

WAX RESEARCH and DEVELOPMENT TOWER

RACINE, WISCONSIN

ARCHITECT: Frank Lloyd Wright

RESIDENT ENGINEER: John Halama

GENERAL CONTRACTORS: Wiltscheck and Nelson, Inc.

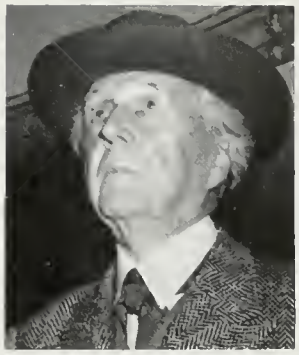
One of the world's most extraordinary laboratory buildings was dedicated recently in Racine, Wisconsin, by the manufacturing firm of S. C. Johnson & Son, Inc.

Designed by architect Frank Lloyd Wright, the 153-foot high building is the tallest building ever built without foundations directly under the side walls. The structure is 40 feet square and has hanging walls of brick and 21 miles of horizontal, 2-inch glass tubing that are supported by a hollow steel reinforced concrete core that is only 13 feet across the narrowest point on the ground floor level.

Construction of the research and development building was started on November 6, 1947 and took three years to complete. The buildings are part of a group of buildings designed by architect Wright, who also designed the firm's administration buildings which are now a unit of the whole.

The tower itself which houses the company's research, development, and product control activities rises in dramatic contrast with the one, two and three story buildings around it. Because the base of the tower is not visable from nearby streets, only those who enter the courtyard around it can appreciate the unorthodox design of the tower which, because it dwarfs its supporting column, almost seems to hang in the air.

Each of the fifteen floors is designed and equipped to give the chemists and technicians working there unsurpassed facilities for carrying



Frank Lloyd Wright
Architect

America's most noted architect, was born at Richland Center, Wisconsin, June 8, 1869. He early won fame with his design for the Imperial Hotel, Tokyo, Japan, and has followed this success by a long series of unique and individualistic structures.

He now makes his home at Taliesin ("shining brow" in Welch), a farm home at Spring Green, Wisconsin, from April to November, and at Taliesin West, in Paradise Valley near Phoenix, Arizona, during the balance of the year.

His design for the administrative offices of S. C. Johnson & Son, Inc. at Racine has been called the most significant contribution to the housing of business since the introduction of the steel-framed skyscraper.

VIEW of the entire group of buildings designed by Architect Wright—at left is unique 15-story Research and Development Tower, with adjoining buildings which have been completed . . . at right is administration building which was completed and opened in 1939.

on their particular tasks, and each floor is cantilevered from the central core which is a cluster of circular, reinforced concrete shafts, and rises 156 feet above the ground and is anchored to a concrete foundation which penetrates fifty-four feet into the earth. The main or square floors are cantilevered 21½ feet to each corner, while the circular floors are cantilevered 12½ feet.

The underground foundation which surrounds the core contains 500 cubic yards of concrete, almost half as much concrete as is in the tower itself. While a strength requirement of 3,000 pounds per square inch is ordinarily considered high, specifications for the tower called for a minum of 5,000 pounds per square inch. To attain this a mixture of 158 lbs. Portland cement; 1,375 lbs. sand; and 1,544 lbs. of pea gravel was used.

The center, or main shaft, is 13 feet in diameter and houses the air supply and exhaust chambers plus all of the utility and building piping services. A circular elevator shaft, 6½ feet, cuts into this main shaft on one side, a semi-circular stairway on the opposite side, The concrete walls of this "fibrous" stem vary from seven inches to ten inches in thickness and support the weight of the entire structure.

The central core and parapets are faced with red tile brick. The square or main floor parapets are five and one half feet high and are trimmed with a pink-buff stone. Circular floors also have brick-faced parapets with radiant heating coils behind the brick to heat the large glassed-in areas.

Each main floor required 82 yards of reinforced concrete. In all 9,000 cubic yards of concrete were used; 504 tons of reinforcing rods; 542 tons of expanded metal reinforcing, and 388,000 bricks, making a total floor area of 98,731 square feet.

The floors are in pairs, 40-foot square floors alternating with circular floors of slightly lesser diameter, an arrangement which permits the in-

VIEW of Tower Laboratory interior showing corner of one of main floors—horizontal glass tubing making up the outer wall admits a mazimum of light for work areas. Alternating with each of the square floors (as shown) are circular ones which do not extend to the outer walls of the building. The curved underside of the mezzanine-like floor above forms the ceiling (shown here) as a curving, graceful contour.

stallation of tall laboratory equipment and facilitates communication. Each floor consists of an upper and lower concrete slab, the lower slab tapering downward to the central core and forming the ceiling of the floor below. The resulting hollow space between the two floors forms a plenum for the distribution of fresh air from the airconditioning system. From this plenum, the air is distributed to the floor below by means of 24 pierced openings in the lower slab.

The circular floors are revealed from the outside as large balconies, almost like mezanines, which can be seen dimly through the glass tubing. Narrow strips of brickwork mark the square floors and provide the only breaks in the glass surface.

The glass walls are constructed of 17 miles of glass tubing laid horizontally and held in place by stainless steel wires binding them to aluminum supports on the inside. None of the weight of the building is supported by these walls. The glass tubes, 2 inches in diameter, are separated by specially moulded synthetic rubber insulating strips. If laid end to end, the tubing in all the buildings would cover a distance of twenty-one miles. Inside the glass tubing is a wall of ¼ inch thick plate glass, representing more than 15,000 square feet in total area. There is a three inch air space between this and the outer glass tubing.

Aluminum uprights with semi-circular notches provide internal support for the tubes, held in place by stainless steel wire. This arrangement of tubing admits diffused light to all working areas, and the effect created throughout is one of lightness and airiness unparalleled in modern business buildings.

Four outstanding advantages accrue from the tower design. Greater privacy is afforded chemists and laboratory technicians. Corridors are eliminated, thereby making all space usable for work and service facilities. Also the tall shaft of brick, glass, and reinforced concrete building in proper and natural relationship flowing downward represents a reduction in the length of the service feed lines.

In addition to the research and development buildings, there are new quarters for the com-

PILOT PLANT . . . one of the new buildings especially designed by the architect for the Experimental Engineering Department chemists to carry on their work in developing manufacturing processes.

pany's advertising department, a fully equipped photographic laboratory and studio, and a lounge, dining area, and service quarters, known as "The Causerie," which also serves the practical purpose of providing a visual demonstration of the uses of the company's household products. On one wall of the foyer is a mural painted by the Chinese artist Wang Chi-Yuan, depicting a Carnauba Palm scene in Brazil.

There is a large garage and car port area inside the outer wall which encloses all the buildings and their surrounding courtyard.

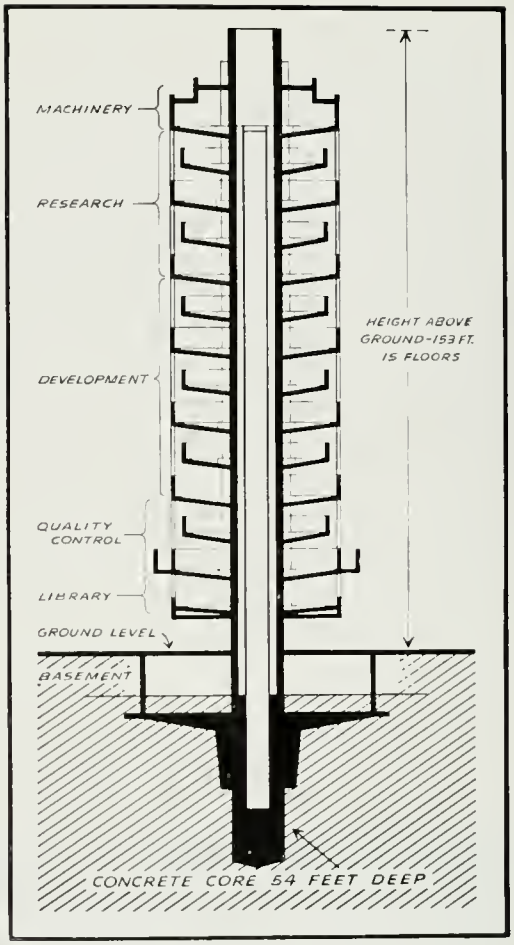
Among the special features is a small greenhouse. This will provide decorative plants to fill the bronze plant holders built into the curves and angles of individual offices. This is in keeping with Wright's principle of "bringing the outdoors inside" as a decorative feature.

Exterior plantings fill the areas around the tower base, around the columns near it, and between buildings.

A great glass dome, made up of concentric rings of tubing spanning a diameter of 25 feet, brilliantly illuminates the advertising reception room. From this room curved doors set into glass tubing walls lead to private offices.

The decorative pattern for the interior of all the offices is integrated and harmonized with the architectural theme. The soft rust red hue of the brickwork is set off by the bands of tubing and interior walls of matched American walnut. Exterior capstones extend through to the interior to give another touch of decorative emphasis.

All furniture, specially designed by Wright, is in soft tones of red, walnut, and green, with unique round and oval tables that accent the sweeping curves of built-in benches and shelving.



Concrete foundation shown at bottom of above design is like heavy keel or anchor to provide a solid base for tower—relatively narrow reinforced concrete "stem" connects base with tower structure proper—each floor is given cantilever type support from central core. No foundations directly under walls of square tower.

ARTHUR FROELICH, Architect
McDONALD-WRIGHT & NELSON
Contractors

... provides a strong, permanent, decorative facing that neither time, the elements, fire, nor man's destructive wear can efface.

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CALIFORNIA CONTRACTOR IS GIVEN MOLES AWARD

Lester S. Corey, president of the Utah Construction Company, San Francisco, and Ray N. Spooner, treasurer and principal of Allen N. Spooner & Sons, Inc., New York City, have been given the 11th Annual Moles Awards for outstanding contributions to construction progress during the year.

LESTER S. COREY

Presentation of the plaques and award citations will be made the latter part of January in New York.

Corey started with the Utah Construction Company in 1901 as a timekeeper and became president of the firm in 1940. Spooner is famous in New York for North River pier construction.

Last year's award winners were former President Herbert Hoover, and Richard E. Dougherty, past president of the American Society of Civil Engineers and retired vice president of the New York Central Railroad.

BIG JUMP IN SCHOOL COSTS SHOWN IN SURVEY

It cost an average of $206 to send each child to school throughout the nation in 1949 as compared to $88 in 1940, an increase of 134 per cent, according to a recent report of the Education Committee of the Chamber of Commerce of the United States.

Highest states in average pupil expenditures last year were (1) New York, $312; (2) Montana, $302; (3) New Jersey, $298, and (4) Connecticut, $297.

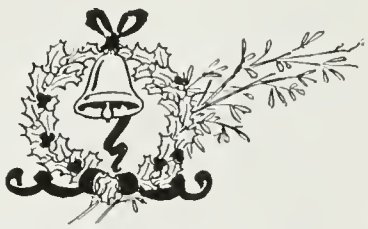
Lowest school costs were in Kentucky with $109; Alabama, $105; Arkansas, $102, and Mississippi, $73.

Highest per cent of income spent for educational purposes was in South Dakota, 3.65%. The lowest income for education costs were in Missouri with 1.76% and Massachusetts with 1.64%.

PUBLIC HEARING ON PROPOSED HOSPITAL LICENSE REQUIREMENTS

The State Board of Public Health will hold a public hearing on January 19, 1951 at 10 a.m., Room 668 Phelan Building, San Francisco, to discuss proposed amendments to the present licensing requirements for hospitals.

The proposed revisions apply to all types of hospitals, nursing and convalescent and rest homes, and sanatoria.



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Ralph N. Pollack, President; Francis J. McCarthy, Vice-President; William B. McCormick, Secretary; George A. Downs, Treasurer. Offices 369 Pine St. San Francisco.

Oregon Chapter:
Herman Brookman, President; Donald J. Stewart, Vice-President; Raymond Kermit Thompson, Secretary; Millard H Schmeer, Jr., Treasurer. Secretary's office 429 S. W. 4th Avenue, Portland.

Pasadena Chapter (California):
Burton Romberger, President; Georgius Y. Cannon, Vice-President; Donald E. Neptune, Treasurer; William H. Taylor, Secretary. Directors: Boyd E. Georgi, Roland E. Coate, Edwin Westberg and Robert H. Ainsworth. Office 1041 E. Green St., Pasadena.

HEITSCHMIDT APPOINTED TO CALIF. BOARD OF ARCHITECTURAL EXAMINERS

Earl Heitschmidt, A.I.A. architect of Los Angeles, has been appointed to the State Board of Architectural Examiners by Governor Earl Warren, to serve out the term of architect Winsor Soule of Santa Barbara who recently resigned from the Board.

Heitschmidt has been active in architectural activities in California and the West Coast, serving as president of the Southern California Chapter A.I.A., and Regional Director of the A.I.A.

ARCHITECTS GET INTERESTING TROPHIES FOR NATIONAL MUSEUM

The century-old drafting instruments used to create the distinctive dome of the U. S. Capitol and to design the building's wings now occupied by the Senate and House of Representatives have been presented to the American Institute of Architects and will be placed on exhibition in the Octagon House.

The instruments had been the property of Thomas U. Walter, Philadelphia architect who was appointed in 1851 to design extensions for the Capitol.

APPOINTED DEAN AT MASSACHUSETTS

Pietro Belluschi of Portland, Oregon, has been appointed dean of the School of Architecture and Planning at the Massachusetts Institute of Technology, according to a recent announcement by Dr. James R. Killian, Jr., president of the Institute.

He succeeds William Wurster who resigned the post recently to assume the duties of dean of the School of Architecture of the University of California.

Belluschi will take over his new duties on January 1, 1951, but will retain his architectural practice in Portland and the West Coast.

WASHINGTON STATE CHAPTER

The December meeting was devoted to a practical discussion of architectural problems with preliminary sketches, client discussions, blueprints and other actual activities being considered. The annual Christmas party was observed two days later at the Town and Country Club with a large number of members and guests present.

East Bay Chapter:
James H. Anderson, President; Loy Chamberlain, Vice-President; William Corlett, Secretary; Chester Treichel, Treasurer. Office c/o Sec., Bank of America Bldg., Oakland.

Montana Chapter:
Orr Pickering, President; H. C. Cheever, Secretary, Montana State College, Bozeman, Montana.

Nevada Chapter:
George L. F. O'Brien, President; Aloysius McDonald, Vice-President; Graham Erskine, Secretary; Edward S. Parsons, Treasurer. Offices 160 Chestnut St., Reno.

Nevada State Board of Architects:
L. A. Ferris, President, Reno; Walter Zick, Secretary, Las Vegas; Directors, Aloysius MacDonald, Las Vegas; Russell Mills and Edward Oarsons, Reno. Office, P. O. Box 2107, Las Vegas, Nevada.

San Diego Chapter:
George C. Hatch, President; Jack R. Lewis, Vice-President; Louis A. Dean, Secretary; Donald Campbell, Treasurer; Directors, C. J. Paderewski, Walter C. See, Louis H. Badmer, and Wm. Templeton Johnson. Offices Suite 206 Fifth Avenue Building.

San Joaquin Chapter: (California)
Fred L. Swartz, President, Fresno; Lloyd J. Fletcher, Vice President, Visalia; Walter Wagner, Secretary, Fresno; Robert W. Stevens, Treasurer, Fresno. Directors: Alastain Simpson, William D. Coats, William F. Baxter. Maurice J. Metz, Delegate California Council of Architects. Office, Sec. Fulton-Fresno Bldg.

Santa Barbara Chapter (California):
Robert I. Hoyt, President; Harold E. Burket, Vice-President; Roy W. Cheesman, Secretary; Lutah M. Riggs, Treasurer. Address, 242 San Marcos Bldg.

CALIFORNIA COUNCIL OF ARCHITECTS
Frank V. Mayo, President; Frederick A. Chase, Executive Secretary. Office, 3757 Wilshire Blvd., Los Angeles 5.

Southern California Chapter:
John Rex, President; John J. Landon, Vice-president; Burnett C. Turner, Secretary; Jack C. Lipman, Treasurer. Chapter Headquarters, 3757 Wilshire Blvd., Los Angeles 5.

Spokane Chapter:
Richard H. Eddy, President; Harry C. Weller, Vice-President 1; Kenneth D. Storment, Vice-President 2; Victor L. Wulff, Secretary, and Carl Johnson, Treasurer. Office 1023 W. Riverside Ave., Spokane, Washington.

Utah Chapter:
Howell Q. Cannon, President; William J. Monroe, Jr., Secretary, 3707 South 32nd West Street, Salt Lake City 7, Utah.

Washington State Chapter:
Perry B. Johanson, President; Paul Thiry, 1st Vice-President; Thomas F. Hargis, Jr., 2nd Vice-President; John S. Detlie, Secretary; Lawrence G. Waldron, Treasurer. Office 714 American Bldg., Seattle 4.

Tacoma Society:
E. N. Dugan, President; P. G. Ball, Vice-President; Lyle Swedberg, Secretary-Treasurer.

Hawaii Chapter:
James C. Simms, President; Alfred Preis, Secretary, 1507 Kapiolani Blvd., Honolulu, T. H.

The Adult Education Department of the School of Architecture at the University of Washington has announced a course in "Basic Design." The course is open to anyone with some architectural background.

NEW MEMBERS: Coporate members Wendell H. Lovett, Jay Robinson, Jr., and John Petter. Associate members Henry Balisky, Robert A. Parker and Donald M. Wilson.

NORTHERN CALIFORNIA CHAPTER

Henry J. Brunnier, structural engineer and winner of the Building Industry Conference Board's 1950 award spoke at the November meeting on the subject of "Earthquakes." His comments were very informative to the architects.

Under the stimulation of Chairman George Rockrise, more than forty-one projects of Chapter members were displayed in the Annual Art Festival exhibit recently held in the Palace of Fine Arts Building, San Francisco. In addition the San Francisco Board of Education displayed some twenty-two new school projects.

NEW MEMBERS. New Chapter members include Benjamine K. Polk, Richard A. Bohn, and Victor Abrahamson.

REMODEL SAN FRANCISCO CHAMBER OF COMMERCE

Three Marin County artists, an architect, an interior decorator and a mural painter were chosen recently to remodel and redecorate the spacious offices of the San Francisco Chamber of Commerce.

John S. Bolles, an architect who has designed many Marin County homes, redesigned the Chamber's offices as part of their "second Century of Progress" program. More than fourteen departments dealing with every phase of community life was included in architect Bolles planning.

George Harris painted a twenty-seven foot wall mural, and Archibald Taylor was in charge of the interior decoration of the new offices.

SOUTHERN CALIFORNIA CHAPTER

The December meeting heard a talk by Gilbert Adrian, recognized as one of America's most influential dress designers, who discussed forthcoming style changes on the basic aspects of design which apply to all creative work in all ages.

Indications are that the Women's Architectural League of Southern California are becoming very active under the initial leadership of Mrs. Robert Thomas and Mrs. Henry Wright. Election of officers for the ensuing year will soon take place and a program of events announced.

ARCHITECTURAL CONTEST FOR MEMORIAL ANNOUNCED

A world-wide architectural competition for a memorial to be built in Jerusalem honoring the late Dr. Theodore Herzl, founder of modern Zionism, has been announced by the Jewish Agency for Palestine, New York.

Three prizes totaling about $14,000 will be awarded.

The memorial will comprise a tomb and surrounding park on Mt. Herzl, where the Zionist leader's body now lies. Open to all American architects and sculptors, the competition will close May 15, 1951.

Establishment of a 100-acre Engineering Field Station to provide facilities for research projects of the Institute of Engineering Research on the Berkeley campus of the University of California has been announced by President Robert G. Sproul.

WITH THE ENGINEERS

Structural Engineers Association of Northern California
Arthur W. Anderson, President; John E. Rinne, Vice President; Franklin P. Ulrich, Treasurer; Geo. E. Solnar, Jr., Secretary. Howard C. Schirmer, Walter L. Dickey, Geo. A. Sedgwick, Harold O. Sjoberg and Jesse Rosenwald, directors.

Structural Engineers Association of Central California
William H. Petersen, President; Walter S. Wassum, Vice President; O. T. Illerich, Sec. Treas.; Ernest D. Francis, M. A. Ewing, and Arthur A. Sauer, directors. Office O. T. Illerich, c/o Div. of Arch., Sacramento.

American Society of C. E.
San Francisco Section
A. W. Earl, President; G. B. Woodruff, Vice President; C. T. Wiskocil, Vice President; R. D. Dewell, Secretary-Treasurer. Secretary's Office, 604 Mission Street, San Francisco.

Structural Engineers Association of Southern California
E. C. Hillman, Jr., President; Donald F. Shugart, Vice President; Robert J. Short, Secretary-Treasurer. Directors: Charles M. Herd, John Minasian, Harry Bolin, John Case and Lewis Osborne. Office, 202 Architects Bldg., Los Angeles 13.

Structural Engineers Association of Oregon
R. Evan Kennedy, President; Guy H. Taylor, Vice President; James R. Griffith, Secretary-Treasurer; Directors Jerome A. McDevitt, H. Loren Thompson, and Robert L. Tidball. Offices, Portland.

Puget Sound Engineering Council (Washington)
R. E. Kister, A. I. E. E., Chairman; E. R. McMillan, A. S. C. E., Vice Chairman; L. B. Cooper, A. S. M. E., Secretary; A. E. Nickerson, I. E. S., Treasurer. Offices, L. B. Cooper, c/o University of Washington, Seattle 5, Washington.

ARMY DIVISION ENGINEER OFFICE TO SAN FRANCISCO

The office of the Division Engineer, South Pacific Division, has been moved from Oakland to San Francisco, according to an announcement by Col. J. S. Seybold, Division Engineer, U. S. Army Corps of Engineers.

New offices are located at 130 Sutter Street.

STRUCTURAL ENGINEERS ASSOCIATION OF SOUTHERN CALIFORNIA

The regular meeting was held November 1, at the Alexandria Hotel with President Ernie Hillman presiding over the business meeting and introducing several new members.

Ben Benioff introduced the first speaker, Mr. Ed. Seaver, who read N. S. Perkins paper, "Predicting Exterior Plywood Performances." The paper revealed the connection between wood failure and the durability of exterior plywood.

Extensive research had been done by Forest Products Laboratory in connection with "resin adhesives" including straight phenolic resin casein glues and blood-extended resins. The phenolic resins with blood additives, which had passed commercial standard tests, were used quite extensively in 1940, because they offered appreciable cost reductions. But in 1943 enough evidence on the failure of phenol-blood glued samples had been accumulated to justify the banning of the use of DFPA grade marks on plywood made with glue containing blood or other proteins.

The Commercial Standard requirement for wood failure was only 60% in 1943 as a minimum average, although improved straight phenolic resins indicated wood failure from 90 to 95%. In 1945 the DFPA Standards rose to 90% minimum for approving new glues.

Today, every new approved glue, when used in plywood production, is represented on a test fence by 150 exposed samples as well as 8 sets of 24 samples for periodic testing. The former are examined at regular intervals for signs of delamination. One set of the 24 test samples is also brought in at inspection time, subjected to boil test and read for wood failure, to ascertain whether there is any progressive decrease that might indicate a weakening of the glue bond from year to year.

In summary, Mr. Perkins' paper showed how performance standards were established, used for several years, found inadequate and revised; and the paper showed the correlation between field performance and laboratory tests.

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and the standard of wood failure has proved effective in raising and maintaining quality.

The second speaker of the evening, T. K. May of the West Coast Lumbermen's Association, was also introduced by Mr. Benioff. Mr. May's talk on "Glued Laminated Construction for Structural Purposes" was very informative. His discussion of adhesives supplemented the first presentation somewhat and he added some interesting data on allowable stresses in laminated members, running as high as 3000#/sq. in. in bending.

The increase in allowable stress was determined primarily because of the reduced moisture of the individual members of the lamination, and because the critical laminations can be selected with special attention to slope of grain.

May concluded by mentioning a publication the WCLA will make available in the near future entitled, "Standard Specification for Design and Fabrication of Glued Laminated Members," which will contain information on working stresses, use of and spacing of butt joints, requirements of scarf joints, slope of grain and note of growth for bending, tension and compression members and other useful data for the engineers and architects.

ENGINEERING SCHOLARSHIPS ARE AVAILABLE CARNEGIE INSTITUTE

Carnegie Institute of Technology has announced that examinations for ten Westinghouse scholarships worth a total of $28,500 will be given on March 10, 1951.

Examinations for the scholarships will be given by the College Entrance Examination Board in all parts of the nation, and is open to men who graduate in the upper quarter of their class between January and September 1951.

Scholarships cover four years' tuition, plus cash grants in the freshman and sophomore years.

PLAN SUGGESTED FOR ENGINEER MOBILIZATION

The Board of Directors of the National Society of Professional Engineers have offered a four-point program of action in the mobilization of engineering manpower in the event the government finds it necessary to take action as result of an emergency.

The four proposals are:

1. That a realistic deferment policy be initiated in order to guarantee the future supply of technical personnel throughout an extended mobilization period.

2. That during a period of extended emergency, a review board of eminent engineers and scientists be appointed to maintain a balance between requirements for engineers to meet the military needs and defense production needs.

3. That steps be taken within the Armed Forces to insure the proper utilization of professional personnel during war time.

4. That if full mobilization is necessary, steps be taken to assign technical personnel in civilian services where their greatest contribution to the defense effort can be made.

CALIFORNIA SOCIETY OF PROFESSIONAL ENGINEERS

More than 3,000 professional engineers are scheduled to meet in San Francisco on January 18-20 to attend the annual meeting of the California Society of Professional Engineers.

In addition to technical sessions, the convention will feature an exhibit of industrial equipment, machinery, product and services.

STRUCTURAL ENGINEERS ASSOCIATION OF NORTHERN CALIFORNIA

The December meeting was devoted to association business, announcement was made however that Colonel Andrew M. Dunn, Chemical Corps,

(See page 31)

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PRODUCER'S COUNCIL PAGE

The National Organization of Manufacturers of Quality Building Materials and Equipment affiliated with THE AMERICAN INSTITUTE OF ARCHITECTS

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Vice-President, Art Staat, Natural Gas Equipment Co., 1150 Folsom Street
Secretary, Ed. Edinger, Owens-Corning Fiberglass Corp., 68 Post Street
Treasurer, Fred A. Figone, Otis Elevator Co., 1 Beach Street

Edited by Don W. Lyon, LIBBEY-OWENS-FORD GLASS CO.

CHRISTMAS JINX

Highlighted by the greatest attendance in its history, the 20th annual Christmas Jinx of the Council proved to be an outstanding success. The event, staged at the Hotel Claremont, Berkeley, on Friday, December 1 attracted architects and engineers from all over Northern California. The State Division of Architecture was well represented with Anson Boyd, State Architect, leading the sizable delegation.

Also very much present were Frank V. Mayo, Stockton, President of the California Council of Architects and Fred A. Chase, Los Angeles, Executive Secretary for the same organization. In all approximately 500 men including some 250 architects, were present for the dinner and the entertainment which followed.

The play which was presented, entitled "Architecture Through the Ages or Death of a Salesman" was produced and staged entirely by members of both the council and local chapters of the A.I.A. Such veterans of previous Jinks' skits as Jim Anderson, A.I.A., George Conley, Carl Frank, Jack Armstrong and Howie Noleen turned in their usual workmanlike performances. Not to be outdone, several newcomers to the cast scored heavily with the audience. Will Corlett, Jr., A.I.A., as the flute-playing Egyptian architect handled his part capably as well as contributing greatly with his drawings for each of the scenes.

Boris Kitchen, Master Builders Co., in his characterization of the Athenian architect, proved to be a dark horse and his performance undoubtedly earned him future roles. Architects Jim Anderson and Don Kirby cemented the A.I.A.-P.C. relationship by virtue of their excellent work.

Paul O'Daffer, Harbur Plywood; and John Cowley, The Brookman Company, took turns at playing the feminine lead and handled the part with skill and considerable padding in the right places. Likewise alternating their roles as the frustrated salesman were George Conley, Johns-Manville and Howie Noleen, E. F. Hauserman Company. Both are experienced "ham" actors and their handling of the role displayed that experience.

Tracing the history of architecture from 50,000 B. C. to the 21st century the play depicted the unsuccessfull efforts of the salesman to sell the architect on his product and his attempts to improve the architect's specifications. He almost succeeds once, only to have Fred Reimers, A.I.A. playing his first role in the annual hoe-down, blow the whole affair to bits with finesse and abandon.

The entire production gave evidence of the expenditure of much time and work on the part of Jim Ferguson, producer and director, and the cast. The thanks of the council are due the cast for their hard work and Ray Brown, Gladding McBean; Art Staat, Natural Gas Equipment; Lloyd Cramer, Westinghouse Elevator; Roland MacNichol, Libbey-Owens Ford; Wayne Hertzka, A.I.A.; Fred Henning, Western Asbestos; and Al West, Alcoa for their excellent handling of the details.

USE QUALITY PRODUCTS — THE PRODUCERS' COUNCIL — MANUFACTURERS OF QUALITY BUILDING PRODUCTS — CONSULT AN ARCHITECT

WITH THE ENGINEERS

(From page 29)

U. S. Army, will speak at the San Francisco Engineering Council on January 11, 1951, on the subject "Atomic Bomb Effects." Tickets should be obtained in advance.

NEW MEMBER. Henry C. Powers, Jr., has been elected an Affiliate Member.

FEMINEERS ELECT OFFICERS FOR YEAR

The "Femineers" held an election of officers for the ensuing year, with Mrs. A. C. Horner being named president. Other officers include Mrs. H. J. Degenkolb, vice president; Mrs. Ed. McKeon, secretary; Mrs. L. W. Graham, treasurer, and Mrs. W. W. Brewer, Mrs. W. W. Moore, and Mrs. A. B. Smith, Jr., directors.

More than forty members attended the election meeting, representing the San Francisco-Oakland Bay Area.

A Christmas party was held December 20 at the Berkeley City Womens Club with Mrs. John Rinne serving as hostess of the day, assisted by Mrs. Ed. McKeon and Mrs. John Rinne.

STRUCTURAL ENGINEERS ASSOCIATION OF SOUTHERN CALIFORNIA

Through the courtesy of the Columbia Steel Company an interesting color film was shown at the December meeting which highlighted the fabrication and erection of structural steel work on the "Secretariat Building" of the United Nations headquarters in New York City.

The picture included preparation of the site and building the foundations, manufacture and fabrication of the structural members, erecting the giant column sections and beams, operations of the huge guy derricks, bolting the members and plumbing the structure, riveting, "topping out," and the final dedication of the building.

AMERICAN SOCIETY FOR METALS PUGET SOUND CHAPTER

Dr. Stewart Fletcher, chief metalurgist of the Latrobe Electric Steel Company, Latrobe, Pa., presented a technical discussion recently on the subject "Modern Tool Steels," pointing out that today's industry is based on the development of tool steels.

Dr. Fletcher placed emphasis on methods and precautions used in selecting, designing and heat treating tool steels to obtain their inherent useful characteristics.

C. JEFFERSON SLY, President, Navy Civil Engineers Corps Reserve Association, presided at a meeting honoring Rear Admiral J. F. Jelley, Chief, Navy Bureau of Yards and Docks, who spoke on the subject "A Message of Great Importance."

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HEADLINE NEWS & VIEWS

By E. H. W.

OREGON'S 1950 census of homes and apartments shows a gain of 156,000 units over the 1940 census, reports the National Association of Home Builders, Inc.

* * *

PREDICTIONS are being made by economists and retailers that the public will be in a more cautious buying frame of mind for the next few months.

* * *

THE construction industry completed projects valued at more than $49-billion for World War II, and all were executed at unprecedented speeds.

* * *

Construction has started on a new $1,000,000 Art Building on the Los Angeles campus of the University of California which will provide galleries, studios, workshops, library and classrooms.

* * *

SOUTHERN CALIFORNIA'S construction volume for 1950 will probably exceed $1,000,000,000 in spite of recent construction curbs. This figure is considerably ahead of last year.

* * *

THE WEST'S BEST. Predictions have been made that the construction industry of the 37 states east of the Rockies will decline 19 per cent during 1951 —by contrast, construction in the West will be better in 1951 than 1950.

* * *

WEST Coast tree farm acreage in western Oregon and Washington jumped to 3,677,707 acres with the addition of 407,015 acres in the Douglas fir region recently.

* * *

A BIG WAR jitters causes some to predict that tomorrow's factory will look like a "concrete block" . . . day after tomorrow (if a BIG WAR comes) we won't care.

* * *

AMERICAN business is paying out a "hidden payroll' of fringe benefits, pensions, insurance, paid vacations, and similar items equivalent to $477 a year for every worker, or an addition of 23c an hour over and above wages paid for time worked.

* * *

A new and better kind of training for apprentices in the plumbing industry is being developed as a result of the cooperative efforts of the National Association of Master Plumbers and the United Association of Journeymen and Apprentices of the Plumbing and Pipe Fitting Industry.

ARCHITECT APPOINTED TO STAFF OF THE UNIVERSITY OF DENVER

Earl C. Morris, designer of some of Colorado's outstanding buildings, has been appointed interim director of the University of Denver's School of Architecture and Planning, according to a recent announcement by Chancellor Albert C. Jacobs.

EARL C. MORRIS

Morris, following graduation from the School of Architecture, Columbia University, was the 1928-29 holder of the LeBrun Traveling Fellowship of the American Institute of Architects and traveled in Italy, France and England.

In 1935 he opened an office in Denver with the late F. W. Frewen and will continue to conduct his private practice while administering at the university.

Morris is consultant to the US Reclamation Bureau and an officer of the Colorado State Board of Examiners of Architects. During the late war he was associate architect-engineer for a U. S. Air Force base near Colorado Springs.

Morris succeeds Carl Feiss who has become associated with a federal agency in Washington, D. C.

APPOINTED MANAGER OF LABOR RELATIONS

Paul L. Dragon has been named Manager of Labor Relations for the operating department of the Columbia Steel Company at Pittsburg, according to a recent announcement by L. S. Dahl, vice-president of operations.

Dragon has been serving as assistant Director of Industrial Relations of Columbia Steel Company since June 1, 1948.

OPENS WEST COAST OFFICE

The National Radiator Company of Johnstown, Pa., has opened a Pacific Coast branch sales office in San Francisco, with Robert E. Daly in charge, according to a recent announcement by Carrol M. Baumgardner, vice-president in charge of sales.

Daly will direct operations of the firm in the states of Oregon, Washington, Nevada, Idaho, Utah and California.

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BOOK REVIEWS
PAMPHLETS AND CATALOGUES

UNDERPINNING—Its Practice & Applications. By Edmund Astley Prentis & Lazarus White. Columbia University Press. New York. Price $10.00.

This book is the second edition revised and enlarged and is an authoritative technical description of underpinning methods and applications for foundation construction. It contains much new material and brings the work of the authors completely up-to-date.

The volume describes in detail actual cases of every type of underpinning; contains an introductory treatise on soil mechanics; includes nearly 200 photographs and drawings; and other information including specifications, legal aspects of underpinning and foundation work and a glossary of terms.

The authors are considered an authority on the subject of design and installation of underpinning and this volume should be of great interest to engineers, architects and building contractors.

PRINTING TYPES And How To Use Them. By Stanley Hlasta. Rutgers University Press, New Brunswick, New Jersey. Price $7.50.

For those who work with type faces PRINTING TYPES offers in one complete volume up-to-date information on 126 type faces most commonly used in books, magazines, and advertising .

A short history of the origin and development of each face is given along with a detailed explanation of its distinguishing characteristics and uses.

The author has rendered an invaluable service to anyone who uses printing as it is the first time such complete and basic information has been compiled and presented in one volume.

ELEMENTARY THEORY AND DESIGN OF FLEXURAL MEMBERS. By Jamison Vawter & James G. Clark. John Wiley & Sons, Inc., New York, N. Y. Price $4.00.

This book presents the basic theory of flexure as applied to the design of members in bending, and covers the major structural material of steel, timber, and concrete.

Individual chapters are devoted to various materials; an Introducion covers the design of structures in general. Topics include dead and live loads, impacts, other forces, handbooks and specifications. Pure bending in homogeneous, symmetrical sections with emphasis on bending in symmetrical beams, bending stresses in rectangular beams, flexual formula, and shear in beams.

The book contains many illustrative examples and problems.

NEW CATALOGUES AVAILABLE

Any of the catalogues or folders described here may be obtained by forwarding your request as indicated in the coupon below to the office of the ARCHITECT & ENGINEER. *Merely mark the items you want and clip or paste the coupon to your letterhead.*

231. HOW TO PLAN A SCHOOL WORKSHOP. A revised edition of the booklet, "How to Plan a School Workshop," is now available to architects, according to word received from the Delta Power Tool Division, Rockwell Manufacturing Company. Announcing the new edition, a spokesman for the company said, "In this practical handbook, we share with the architect our intimate working acquaintance with the particular requirements of school shops. We provide authoritative information that aids the architect in planning for economy, safety, convenience, and teaching efficiency." "How to Plan a School Workshop" includes photographs and floor plans of 30 typical shops, for both large and small schools. These are not fanciful shops that have been "dreamed up" by Delta. They are school shops that are in actual operation—and have been proven practical in regular class room use. 11/50.

232. SANTOMERSE S IN CONCRETE BLOCK MANUFACTURE. Procedures for using Monsanto Chemical Company's liquid wetting agent Santomerse S in the manufacture of concrete blocks are described in a bulletin available from the company. Denser, stronger and more uniform concrete products are said to result from the addition to the mix of small amounts of the wetting agent, which permits the use of less water by increasing its efficiency. Other advantages cited in the bulletin include improved plasticity, lighter color, cleaner equipment and better dispersion of cement. 11/50.

233. WHERE TO USE DOUGLAS FIR LUMBER. "Where to Use Douglas Fir Lumber," a two-color booklet featuring "the world's most versatile wood", has just been published by the West Coast Lumbermen's Association. This attractive publication, profusely illustrated, will serve as very useful reference material because it covers the properties, characteristics and grades of Douglas fir; gives recommended grades for interior and exterior uses and points out the hundreds of uses of this dependable softwood. 16 pages, illus. 11-50.

234. REPUBLIC SHEETS FOR THE BUILDING INDUSTRY. Republic Steel announces a new two-color booklet on Republic Sheets for the Building Industry. Although primarily devoted to applications of ENDURO Stainless Steel, the booklet also includes data on TONCAN IRON, PAINTLOK, ZINCBOND, and U-LOY sheets. The new publication leads off with nine cartoon-illustrated reasons for specifying stainless steel. It then goes into a discussion of types, finishes, gages, forms, properties and analyses. A section on "How to Specify ENDURO" is designed to assist the architect in drawing up his specifications. Detail drawings and installation photographs show how some of the country's leading architects made effective use of stainless. 20 pages, illus. 11-50.

235. OPERATING PRINCIPLES OF AIR DIFFUSERS. A new folder giving facts about aspirating air diffusers is available from Anemostat Corporation of America. The new folder is illustrated with a number of diagrams and gives engineering data and formulae for calculations used in solving air conditioning problems. 6 pages, Illus. 8-50.

236. TWO NEW TECHNICAL BULLETINS ISSUED. Two new technical bulletins on the properties of high nickel alloys have been issued by The International Nickel Company, Inc. Both contain charts, tables on compositions and properties, working instructions, and other information of a technical nature. While each of the bulletins represents, to some extent, revisions of earlier bulletins on the same subjects, the revisions have been so complete and the new data contained so extensive that they are essentially new presentations. 24 pages, Illus., 3-50.

237. TERNE METAL ROOFING. Pittsburgh, Pa.—Terne metal roofing for homes is the subject of a four-color brochure recently published by Follansbee Steel Corporation. The booklet, which is being sent by Follansbee to architects, sheet metal jobbers and contractors for eventual consumer distribution, is issued with the company's note that seamless terne metal roofing, after a ten-year absence from he market because of wartime and postwar shortages, is currently exceeding all previous production figures. This roofing is made of copper-bearing steel strip, heat treated to provide a balance between malleability and toughness. It is dip-coated with terne metal, an alloy of about 80% lead and 20% tin. 16 pages, Illus., 10-50.

238. FANS AND BLOWERS. A new catalog giving complete data and scale drawings with performance charts has just been released by the Moore Company. The brochure covers the Moore Class 2000 Pressure Blower. 10 pages illus. and 15 charts., 9-50.

239. RESIDENTIAL VENTILATION GUIDE. The Residential Ventilation Guide is a newly compiled booklet covering the use of mechanical ventilation in the residence. Information on all phases has been gathered, carefully analyzed and consolidated into a complete guide. It is a development of the Attic Ventilation Code, which it supersedes. That subject is again fully to the popular window fans. Illustrations are used to clorify treated in all of its new developments. A section is also devoted the various subjects and the language is not technical. Definitions, simple formulas, examples and a table of air changes are included. The booklet is designed for architects, builders, dealers and interested users.

240. VENTING MANUAL PUBLISHED. A comprehensive, well illustrated booklet has just been published by William Wallace Company, Manufacturers of Metalbestos gas vent pipe. The manual deals with the basic requirements for proper venting of gas appliances. Liberally illustrated and concisely written.

ARCHITECT AND ENGINEER,
68 Post Street, San Francisco, Calif.

I would like to have a copy of each of the New Catalogues I have circled.

231	232	233	234	235
236	237	238	239	240

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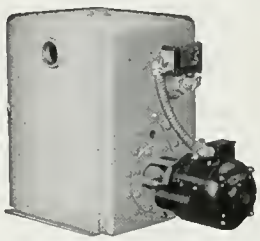

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SEATTLE, WASH. . . . . WHITE-HENRY-STUART BUILDING

A SYSTEM FOR BETTER SPECIFICATIONS

(From page 6)

ing him detailed and accurate information so that plasters, tile setters, and plumbers can't get by with too many shortcuts right before his nose?

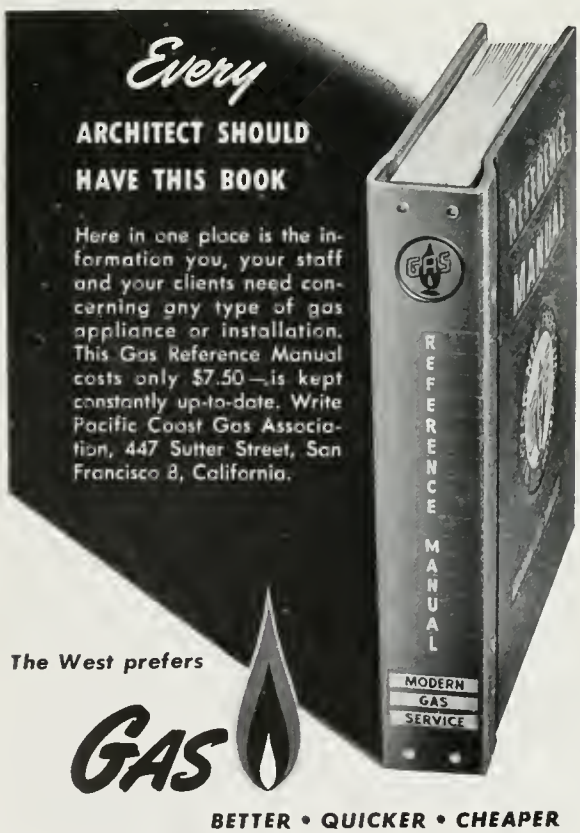
BASIC SPECIFICATIONS

I suggest a carefully prepared set of basic A.I.A. specifications dealing with all the subjects of the major headings as listed in the Standard Filing System. In other words, a book of 41 chapters ranging from (1) Preparation of Site and Preliminary Work to (41) Architectural and Sculptural Models. This information will not be in book form, however, but arranged on standard size 5" x 8" cards (or 8½" x 11" letter-sized paper) and sent to each member of the A.I.A. in a file box when he joins the organization upon payment of some fixed amount, say $20.00. These basic A.I.A. specification cards will form the skeleton information in the card index specification file. Furnished with the cards will be a printed set of division cards with tabs. The information contained on the cards will be very similar to the college notes that I took in Prof. Killam's course on materials at Havard, only the information will be much fuller and more detailed than my classroom notes provide. All the authorities called upon to assist in preparing them shall be noted. Some of these basic cards can be 10" x 8" or even 15" x 8", if more space is required for printing and then folded to the 5" v 8" size to fit the standard-sized filing box. Printing can be done on both sides, or certain longer articles can be filed in standard 5" x 8" envelopes. Each card will carry in its upper right-hand corner the A.I.A. file number so that each can be readily replaced between the division cards, and the date of publication. When changes in methods, materials, installation, and manufacturer occur in any of the 41 major divisions, the A.I.A. central office can reprint its basic specification or information requirements and about four times a year mail out to all members its reprinted or additional cards to be inserted in the file. Old cards shall be thrown away. Costs can even be cut by providing paste-on slips for bits of additional building information.

There is a vast educational field for the development of these basic A.I.A. specification cards. They shall be not only for actual copying into the Architect's specifications, but also shall be a reference source of information regarding all the intricacies of building, and can be used in college classrooms and by labor union instructors. I suggest that each of the 41 divisions contain A.I.A. cards which provide about the following information: (1) A brief, accurate history of the material as used in building; (2) Brief history of the trade which installs the material, perhaps giving some historical data relating to the training and traditions of the ancient guilds. Also wages per hour received by the mechanics at certain periods of history, say 1850—1900—1928—1941 and 1950. Union working regulations and allowed output per day, etc.; (3) Bibliography for further information; (4) Technical information regarding uses, weights, stresses, etc.; (5) Improper methods of installation and common shortcuts often employed but regarded as bad practice and why; (6) Simple field tests to check on materials delivered to the job as well as sources for more thorough tests; (7) Well-edited A.I.A. specifications for proper installation of materials or equipment.

Such a source of information would then form a permanent record in which the architect could keep a vast store of facts under proper index headings to which he could turn at a moment's notice for the right answer. By the changing of properly marked cards all information could be brought up-to-date and the expense of new books would be avoided. Many of the architects intimate personal notations could be kept track of in this same file. The writing of many of these cards would give to the entire profession a lasting record of the findings of many outstanding architects, engineers, artists, sculptors, and teachers. It would be a simple matter for some well-known and recognized man, who wanted to hand on to others some valuable bit of knowledge, to send into the Institute an article with his findings. This would be edited by the proper authorities, discussed as to its merit by the proper committee or technicians, and, if found worthy and needed, published on the standard size card, or cards, distributed to the members. This information would be duly read and then slipped into the standard file under its proper heading according to the number printed in the upper right-hand corner. The individual architect would then have permanent information on that subject for future reference, backed up by the authority of the A.I.A.

(To be concluded next month)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Here in one place is the information you, your staff and your clients need concerning any type of gas appliance or installation. This Gas Reference Manual costs only $7.50—is kept constantly up-to-date. Write Pacific Coast Gas Association, 447 Sutter Street, San Francisco 8, California.
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ARCHITECT AND ENGINEER
ESTIMATOR'S DIRECTORY
Building And Construction Materials

EXPLANATION—Building and construction materials are shown in major classified groups for general identification purposes with names and addresses of suppliers of materials listed in detail under group classification where name first appears—main offices are shown first, with branch or district offices following. The numeral appearing in listings refers to the major group classification where complete data on the dealer, or representative, may be found.

ARCHITECTURAL VENEER (a)
Ceramic Veneer
PACIFIC CLAY PRODUCTS
San Francisco: 605 Market St., GA 1-3970
Los Angeles, Portland, Salt Lake City
GLADDING, McBEAN & CO. *(1)
Porcelain Veneer
PORCELAIN ENAMEL PUBLICITY BUREAU
(Dept. AE-450)
Room 601, Franklin Building, Oakland 12, California
P. O. Box 186, East Pasadena Station, Pasadena 8, California
Granite Veneer
VERMONT MARBLE COMPANY
San Francisco: 525 Market Street, SU 1-6747
Marble Veneer
VERMONT MARBLE COMPANY
San Francisco: 525 Market Street, SU 1-6747

BRASS PRODUCTS (1a)
GREENBERG'S, M. & SONS
San Francisco, Calif.: 765 Folsom, EXbrook 2-3143

BRICKWORK (1)
Face Brick
GLADDING, McBEAN & CO.
San Francisco: Harrison at 9th Sts., UN 1-7400
Los Angeles: 2901 Los Feliz Blvd., OL 2121
Offices at Portland, Seattle, Spokane
KRAFTILE
Niles, California, Niles 3611
San Francisco 5: 50 Hawthorne St., DO 2-3780
Los Angeles 13: 406 South Main St., MU 7241
REMILLARD-DANDINI CO.
San Francisco: 400 Montgomery St., EX 2-4988

BRONZE PRODUCTS (1b)
GREENBERG'S M. & SONS
San Francisco, Calif.: 765 Folsom, EXbrook 2-3143

BUILDING PAPER & FELTS (2)
SISALKRAFT COMPANY
San Francisco: 55 New Montgomery St., EX 2-3066
Chicago, Ill.: 205 West Wacker Drive
ANGIER PACIFIC CORP.
San Francisco 5: 55 New Montgomery St., DO 2-4416
Los Angeles: 7424 Sunset Boulevard

BUILDING HARDWARE (3)
THE STANLEY WORKS
San Francisco: Monadnock Bldg., YU 6-5914
New Britain, Conn.

CEMENT (c)
PACIFIC PORTLAND CEMENT
San Francisco: 417 Montgomery St., GA 1-4100

CONCRETE AGGREGATES (4)
Lightweight Aggregates
AMERICAN PERLITE CORP.
Richmond, Calif.: 26th & 8 Sts.—Yard 2, RI 4307

FIRE ESCAPES (5)
SOULE STEEL
San Francisco: 1750 Army St., VA 4-4141
Los Angeles, Calif.—LA 0911
Portland, Ore.—BE 5155
Seattle, Wash.—SE 3010
MICHAEL & PFEFFER IRON WORKS, INC.
San Francisco 3: Tenth & Harrison Sts., MA 1-5966

FLOORS (6)
Hardwood Flooring
HOGAN LUMBER COMPANY
Oakland: Second and Alice Sts., GL 1-6861
E. K. WOOD LUMBER CO.
Los Angeles: 4710 S. Alameda St., JE 3111
Oakland: 727 Kennedy St., KE 4-8466
Portland: 827 Terminal Sales Building

GLASS (7)
W. P. FULLER COMPANY
San Francisco: 301 Mission St., EX 2-7151
Los Angeles, Calif.
Portland, Oregon

HEATING (8)
HENDERSON FURNACE & MFG. CO.
Sebastopol, Calif.
S. T. JOHNSON CO.
Oakland 8: 940 Arlington Ave., OL 2-6000
San Francisco: 585 Potrero Ave., MA 1-2757
Philadelphia 8, Pa.: 401 No. Broad St.
SCOTT COMPANY
San Francisco: 243 Minna St., YU 2-0400
Oakland: 113 - 10th St., GL 1-1937
San Jose, Calif.
Los Angeles, Calif.
THOMAS B. HUNTER (Designer)
San Francisco: 41 Sutter St., GA 1-1164

INSULATION AND WALLBOARD (9)
LUMBER MANUFACTURING CO.
San Francisco: 225 Industrial Ave., JU 7-1760
SISALKRAFT COMPANY *(2)
WESTERN ASBESTOS COMPANY
San Francisco: 675 Townsend St., KL 2-3868
Oakland: 251 Fifth Avenue, GL 1-2345
Sacramento: 1224 I Street, 2-8993
Stockton: 1120 E. Weber Ave., 4-1863
Fresno: 1837 Merced Street, 3-3277
San Jose: 201 So. Market St., BA 4359-J

IRON—Ornamental (10)
MICHEL & PFEFFER IRON WORKS, INC.* (5)

LIGHTING FIXTURES (11)
SMOOT-HOLMAN COMPANY
Inglewood, Calif., OR 8-1217
San Francisco: 55 Mississippi St., MA 1-8474

LUMBER (12)
HOGAN LUMBER COMPANY *(6)
LUMBER MANUFACTURING CO. *(9)
E. K. WOOD LUMBER CO *(6)
Shingles
SIDEWALL LUMBER COMPANY
San Francisco 24: 1995 Oakdale Ave., AT 2-8112

MARBLE (13)
VERMONT MARBLE COMPANY
San Francisco: 525 Market St., SU 1-6747
Los Angeles 4: 3522 Council St., FA 7834

METAL LATH EXPANDED (14)
FORDERER CORNICE WORKS
San Francisco: 269 Potrero Ave., HE 1-4100
SOULE STEEL *(5)

MILLWORK (15)
PACIFIC MANUFACTURING COMPANY
San Francisco: 16 Beale St., GA 1-7755
Santa Clara: 2610 The Alameda, SC 607
Los Angeles: 6820 McKinley Ave., TH 4196
MULLEN MANUFACTURING COMPANY
San Francisco: 60-80 Rausch St., UN 1-5815
LUMBER MANUFACTURING COMPANY *(9)

PAINTING (16)
Paint
W. P. FULLER COMPANY *(7)

PLASTER (17)
Exteriors
PACIFIC PORTLAND CEMENT COMPANY*(4)
Interiors—Metal Lath & Trim
FORDERER CORNICE WORKS *(14)

PLASTIC CEMENT (f)
PACIFIC PORTLAND CEMENT CO.
San Francisco: 417 Montgomery St., GA 1-4100

PLUMBING (18)
THE SCOTT COMPANY *(8)
THE HALSEY TAYLOR COMPANY
Redlands, Calif.
Warren, Ohio
HAWS DRINKING FAUCET COMPANY
Berkeley 10: 1435 Fourth St., LA 5-3341
CONTINENTAL WATER HEATER COMPANY
Los Angeles 31: 1801 Pasadena Ave., CA 6178
SIMONDS MACHINERY COMPANY
San Francisco: 816 Folsom St., DO 2-6794
Los Angeles: 455 East 4th St., MU 8322
SECURITY VALVE COMPANY
Los Angeles 31: 410 San Fernando Rd., CA 6191

SEWER PIPE (19)
GLADDING, McBEAN & CO. *(1)

INSULATION AND WALLBOARD—

Rockwool Insulation—
(2") Less than 1,000 □ ft. $64.00
(2") Over 1,000 □ ft. 59.00
Cotton Insulation—Full-thickness (3⅜") ..... $95.50 per M sq. ft.
Sisalation Aluminum Insulation—Aluminum coated on both sides ..... $23.50 per M sq. ft.
Tileboard—4'x6' panel ..... $9.00 per panel
Wallboard—½" thickness ..... $55.00 per M sq. ft.
Finished Plank ..... $69.00 per M sq. ft.
Ceiling Tileboard ..... $69.00 per M sq. ft.

IRON—Cost of ornamental iron, cast iron, etc., depends on designs.

LUMBER—

S4S No. 2 and better common O.P. or D.F., per M. f.b.m. $100.00
Rough, No. 2 common O.P. or D.F., per M. f.b.m. 100.00

Flooring—

	Per M Delvd.
V.G.-D.F. B & Btr. 1 x 4 T & G Flooring	$225.00
"C" and better—all	225.00
"D" and better—all	225.00
Rwd. Rustic—"A" grade, medium dry—8 to 24 ft.	185.00

Plywood ..... 18c to 32c per ft.
Plyscord ..... 11½c per ft.
Plyform ..... 25c per ft.

Shingles (Rwd. not available)—
Red Cedar No. 1—$9.50 per square; No. 2, $7.00; No. 3, $5.00.
Average cost to lay shingles, $6.00 per square.
Cedar Shakes—½" to ¾" x 24/26 in handsplit tapered or split resawn, per square $15.25
¾" to 1¼" x 24/26 in split resawn, per square 17.00
Average cost to lay shakes,— 8.00 per square

Pressure Treated Lumber—
Wolmanized ..... Add $35 per M to above
Creosoted, 8-lb. treatment ..... Add $45 per M to above

MARBLE—(See Dealers)

METAL LATH EXPANDED—

Standard Diamond, 3.40, Copper Bearing, LCL, per 100 sq. yds. $39.00
Standard Ribbed, ditto $41.00

MILLWORK—Standard.

D. F. $150 per 1000. R. W. Rustic $175 per 1000 (delivered).
Double hung box window frames, average with trim, $12.50 and up, each.
Complete door unit, $15 to $25.
Screen doors, $8.00 to $12.00 each.
Patent screen windows, $1.25 a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., upper $9.00 to $11.00; lower $12.00 to $13.00.
Dining room cases, $20.00 per lineal foot. Rough and finish about $1.00 per sq. ft.
Labor—Rough carpentry, warehouse heavy framing (average), $75.00 per M.
For smaller work average, $85.00 to $100. per 1000.

PAINTING—

Two-coat work ..... per yard 85c
Three-coat work ..... per yard $1.10
Cold water painting ..... per yard 25c
Whitewashing ..... per yard 15c

Linseed Oil, Strictly Pure (Basis 7¾ lbs. per gal.)		Raw	Boiled
Light iron drums	per gal.	$1.92	$1.98
5-gallon cans	per gal.	2.04	2.09
1-gallon cans	each	2.15	2.21
Quart cans	each	.61	.62
Pint cans	each	.34	.34

Turpentine (Basis, 7.2 lbs. per gal.)		Pure Gum Spirits
Light iron drums	per gal.	$1.35
5-gallon cans	per gal.	1.47
1-gallon cans	each	1.59
Quart cans	each	.47
Pint cans	each	.27

Replacement Oil—$2.75 per gal. in drums. $2.75 per gal. in 5-gal. containers.
Use Replacement Oil ..... $3.00 per gal. in 1 gal. cont.
A deposit of $7.50 required on all drums.

PATENT CHIMNEYS—

6-inch ..... $2.50 lineal foot
8-inch ..... 3.00 lineal foot
10-inch ..... 4.00 lineal foot
12-inch ..... 5.00 lineal foot

PLASTER—

Neat wall, per ton delivered in S. F. in paper bags, $17.60.

PLASTERING (Interior)—

	Yard
3 Coats, metal lath and plaster	$3.00
Keene cement on metal lath	3.50
Ceilings with ¾ hot roll channels metal lath (lathed only)	3.00
Seilings with ¾ hot roll channels metal lath plastered	4.50
Single partition ¾ channel lath 1 side (lath only	3.00
Single partition ¾ channel lath 2 inches thick plastered	8.00
4-inch double partition ¾ channel lath 2 sides (lath only)	5.75
4-inch double partition ¾ channel lath 2 sides plastered	8.75
Thermax single partition; 1" channels; 2¼" overall partition width. Plastered both sides	7.50
Thermax double partition; 1" channels; 4¾" overall partition width. Plastered both sides	11.00
3 Coats over 1" Thermax nailed to one side wood studs or joists	4.50
3 Coats over 1" Thermax suspended to one side wood studs with spring sound isolation clip	5.00

Note—Channel lath controlled by limitation orders.

PLASTERING (Exterior)—

	Yard
2 coats cement finish, brick or concrete wall	$2.50
3 coats cement finish, No. 18 gauge wire mesh	3.50

Lime—$4.00 per bbl. at yard.
Processed LLiLme—$4.15 per bbl. at yard.
Rock or Grip Lath—⅜"—30c per sq. yd.
½"—29c per sq. yd.

Composition Stucco—$4.00 sq. yard (applied).

PLUMBING—

From $200.00 per fixture up, according to grade, quality and runs.

ROOFING—

"Standard" tar and gravel, 4 ply—$11.00 per sq. for 30 sqs. or over.
Less than 30 sqs. $14.00 per sq.
Tile $40.00 to $50.00 per square.
No. 1 Redwood Shingles in place, 4½ in. exposure, per square $18.25
5/2 No. 1 Cedar Shingles, 5 in. exposure, per square 14.50
5/8 x 16"—No. 1 Little Giant Cedar Shingles, 5" exposure, per square .. 18.25
4/2 No. 1-24" Royal Cedar Shingles 7½" exposure, per square 23.00
Re-coat with Gravel $5.50 per sq.
Asbestos Shingles, $27 to $35 per sq. laid.
½ to ¾ x 25" Resawn Cedar Shakes, 10" Exposure $30.00
¾ to 1¼ x 25" Resawn Cedar Shakes, 10" Exposure $35.00
1 x 25" Resawn Cedar Shakes, 10" Exposure 22.00
Above prices are for shakes in place.

SEWER PIPE—

C.I. 6-in. to 24-in. B. & S. Class B and heavier, per ton $99.50
Vitrified, per foot:
Standard, 8-in. ..... $ .60
Standard, 12-in. 1.17
Standard, 24-in. 5.04
Clay Drain Pipe, per 1,000 L.F. in carload lots:
Standard, 6-in. $225.00
Standard, 8-in. 375.00

SHEET METAL—

Windows—Metal, $2.50 a sq ft.
Fire doors (average), including hardware $2.80 per sq. ft., size 12'x12'. $3.75 per sq. ft., size 3'x6'.

SKYLIGHTS—(not glazed)

Copper, $1.25 sq. ft. (flat).
Galvanized iron, 65c sq. ft. (flat).
Vented hip skylights, $1.50 sq. ft.

STEEL—STRUCTURAL—

$220 per ton erected, when out of mill.
$270 per ton erected, when out of stock.

STEEL REINFORCING—

$200.00 per ton, in place.
¼-in. Rd. (Less than 1 ton) $7.90
⅜-in. Rd. (Less than 1 ton) 6.80
½-in. Rd. (Less than 1 ton) 6.50
⅝-in. Rd. (Less than 1 ton) 6.25
¾-in. & ⅞-in. Rd. (Less than 1 ton) .. 6.15
1-in. & up (Less than 1 ton) 6.10
1 ton to 5 tons, deduct 25c.

STORE FRONTS (None available).

TILE—

Ceramic Tile Floors—Commercial $1.20 to $1.60 per sq. ft.
Cove Base—$1.40 per lin. ft.
Quarry Tile Floors, 6x6" with 6" base @ $1.35 per sq. ft.
Tile Wainscots & Floors, Residential, 4¼x4¼", @ $1.65 to $2.00 per sq. ft.
Tile Wainscots, Commercial Jobs, 4¼x4¼" Tile, @ $1.50 to $1.65 per sq. ft.
Asphalt Tile Floor ⅛" ⅜". ..... $ .18 - $ .35 sq. yd.
Light shades slightly higher.
Cork Tile—$ .70 per sq. ft.
Mosaic Floors—See dealers.
Lino-Tile—$1.00 per sq. ft.
Rubber Tile—$ .55 to $ .75 per sq. ft.

Wall Tile—Glazed Structural Units—
2 x 6 x 12 ..... $1.50 sq. ft.
4 x 6 x 12 ..... 1.75 sq. ft.
4 x 6 x 12 Double Faced Partition ..... 2.10 sq. ft.
For colored glaze, add ..... .25 sq. ft.

Building Tile—
8x5½x12-inches, per M $139.50
6x5½x12-inches, per M 105.00
4x5½x12-inches, per M 84.00

Hollow Tile—
12x12x2-inches, per M $116.00
12x12x3-inches, per M 124.00
12x12x4-inches, per M 140.00
12x12x6-inches, per M 186.00
F.O.B. Plant

VENETIAN BLINDS—

75c per square foot and up. Installation extra.

WINDOWS—STEEL—INDUSTRIAL

Cost depends on design and quality required.

ESTIMATOR'S GUIDE

BUILDING AND CONSTRUCTION MATERIALS

PRICES GIVEN ARE FIGURING PRICES AND ARE MADE UP FROM AVERAGE QUOTATIONS FURNISHED BY MATERIAL HOUSES TO SAN FRANCISCO CONTRACTORS. 3% SALES TAX ON ALL MATERIALS BUT NOT LABOR

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

BONDS—Performance or Performance plus Labor and Material Bond(s), $10 per $1000 on contract price. Labor & Material Bond(s) only, $5.00 per $1000 on contract price.

BRICKWORK—MASONRY—

Common Brick—Per 1 M laid—$100.00 up (according to class of work).
Face Brick—Per 1 M laid—$200.00 and up (according to class of work).
Brick Steps—$3.00 and up.
Common Brick Veneer on Frame Bldgs.—Approx. $1.20 and up—(according to class of work).
Face Brick Veneer on Frame Bldgs.—Approx. $2.00 and up (according to class of work).
Common Brick—$36.00 per M—truckload lots, delivered.
Face Brick—$81.00 to $106.00 per M, truckload lots, delivered.

Glazed Structural Units—

Clear Glazed—	
2 x 6 x 12 Furring	$1.50 per sq. ft.
4 x 6 x 12 Partition	1.75 per sq. ft.
4 x 6 x 12 Double Faced Partition	2.10 per sq. ft.
For colored glaze add	.25 per sq. ft.

Mantel Fire Brick—$95.00 per M—F.O.B. Pittsburgh.
Fire Brick—Per M—$101.00 to $135.00.
Cartage—Approx. $9.00 per M.
Paving—$75.00.

Building Tile—

8x5½x12-inches, per M	$139.50
6x5½x12-inches, per M	105.00
4x5½x12-inches, per M	84.00

Hollow Tile—

12x12x2-inches, per M	$116.00
12x12x3-inches, per M	124.00
12x12x4-inches, per M	140.00
12x12x6-inches, per M	186.00

F.O.B. Plant

BUILDING PAPER & FELTS

1 ply per 1000 ft. roll	$5.30
2 ply per 1000 ft. roll	7.80
3 ply per 1000 ft roll	9.70
Brownskin, Standard 500 ft. roll	6.85
Sisalkraft, reinforced, 36 in. by 500 ft. roll	7.00

Sheathing Papers—

Asphalt sheathing, 15-lb. roll	$1.98
30-lb. roll	2.93
Dampcourse, 216-ft. roll	2.95
Blue Plasterboard, 60-lb. roll	5.10

Felt Papers—

Deadening felt, ¾-lb., 50-ft. roll	$3.13
Deadening felt, 1-lb.	3.69
Alphalt roofing, 15 lbs.	1.98
Asphalt roofing, 30 lbs.	2.93

Roofing Papers—

Asphalt Rfg., 15 lb.	$2.09
Standard Grade, 108-ft. roll, Light	1.81
Medium	2.10
Heavy	2.49
Extra Heavy	2.88

BUILDING HARDWARE—

Sash cord com. No. 7	$2.65 per 100 ft.
Sash cord com. No. 8	3.80 per 100 ft.
Sash cord spot No. 7	3.65 per 100 ft.
Sash cord spot No. 8	4.00 per 100 ft.
Sash weights, cast iron. $100.00 ton.	
1-Ton lots, per 100 lbs.	$3.75
Less than 1-ton lots, per 100 lbs.	$4.75
Nails, per keg, base	$11.00
8-in. spikes	11.00
Rim Knob lock sets	3.50
Butts, dull brass plated on steel, 3½x3½	.71

CONCRETE AGGREGATES—

The following prices net to Contractors unless otherwise shown. Carload lots only.

	Bunker per ton	Del'd per ton
Gravel, all sizes	$2.44	$2.90
Top Sand	2.38	3.13
Concrete Mix	2.38	3.06
Crushed Rock, ¼" to ¾"	2.38	2.90
Crushed Rock, ¾" to 1½"	2.38	2.90
Roofing Gravel	2.81	2.90
River Sand	2.50	3.00
Sand—		
Lapis (Nos. 2 & 4)	3.56	3.94
Olympia (Nos. 1 & 2)	3.56	3.88

Cement—

Common (all brands, paper sacks), carload lots, $3.39 per bbl. f.o.b. car; delivered $3.60.
Per Sack, small quantity (paper) $1.05
Carload lots, in bulk per bbl. 2.79
Cash discount on carload lots, 10c a bbl., 10th Prox., less than carload lots $4.00 per bbl. f.o.b. warehouse or delivered.
Cash discount 2% on L.C.L.

Trinity White, Meduse White: 1 to 100 sacks, $3.13 sack warehouse or del.; $9.56 bbl. carload lots.

CONCRETE READY-MIX—

1-2-4 mix, to 10 yards*	$11.75
10 to 100* yards	10.75
100 to 500 yards	10.35
Over 500 yards	10.05

* Delivered to site.

CONCRETE BLOCKS—

	Haydite	Basalt
4x8x16-inches, each	$ .16	$ .165
6x8x16-inches, each	.22	.22
8x8x16-inches, each	.26	.26
12x8x16-inches, each	.34	.39
12x8x24-inches, each	....	.60

Haydite Aggregates—

¾-inch to ⅜-inch, per cu. yd. $6.75
⅜-inch to ⅛-inch, per cu. yd. 6.75
⅛-inch to 0-inch, per cu. yd. 7.25

DAMPPROOFING and Waterproofing—

Two-coat work, $9.00 per square.
Membrane waterproofing—4 layers of saturated felt, $10.00 per square.
Hot coating work, $5.00 per square.
Medusa Waterproofing, $3.50 per lb. San Francisco Warehouse.
Tricosal concrete waterproofing. 60c a cubic yd. and up.

ELECTRIC WIRING—$15 to $20 per outlet for conduit work (including switches).

Knob and tube average $6.00 per outlet.

ELEVATORS—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing a slow speed automatic passenger elevator in small four story apartment building, including entrance doors, about $9,500.00.

EXCAVATION—

Sand, $1.00; clay or shale, $1.50 per yard.
Trucks, $30 to $45 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

FIRE ESCAPES—

Ten-foot galvanized iron balcony, with stairs, $250 installed on new buildings; $300 on old buildings.

FLOORS—

Asphalt Tile, ⅛ in. guage 18c to 35c per sq. ft.
Composition Floors, such as Magnesite, 50c per square foot.
Linoleum, standard guage, sq. yd. $2.75
Mastipave—$1.50 per sq. yd.
Battleship Linoleum—⅛"—$3.00 sq. yd.
Terazzo Floors—$1.50 per sq. ft.
Terazzo Steps—$2.50 per lin. ft.
Mastic Wear Coat—according to type—20c to 35c.

Hardwood Flooring—

Oak Flooring—T & G—Unfin.—

	25/32x2¼	½x2	⅜x2	5/16x2
Clear Qtd., White	$425	$405	$	$
Clear Qtd., Red	405	380	$	$
Select Qtd., Red or White	355	340		
Clear Pln., Red or White	355	340	335	315
Select Pln., Red or White	340	330	325	300
#1 Common, Red or White	315	310	305	280
#2 Common, Red or White	305			

Prefinished Oak Flooring—

	Prime	Standard
½ x 2	$369.00	$359.00
½ x 2½	380.00	370.00
25/32 x 2¼	390.00	381.00
25/32 x 2¾	375.00	355.00
25/32 x 3¼	395.00	375.00
33/32 x 2¼ & 3¼ Ranch Plank		415.00

Unfinished Maple Flooring—

25/32 x 2¼ First Grade	$390.00
25/32 x 2¼ 2nd Grade	365.00
33/32 x 2¼ 2nd & Btr. Grade	375.00
33/32 x 2¼ 3rd Grade	240.00
33/32 x 3¼ 3rd & Btr. Jtd. EM	380.00
33/32 x 3½ 2nd & Btr. Jtd. EM	390.00
33/32 x 2¼ First Grade	400.00
33/32 x 2¼ 2nd Grade	360.00
33/32 x 2¼ 3rd Grade	320.00

Floor Layer' Wage $2.35 hr. (legal as of Nov. 1, 1949. Given by Inlaid Floor Co.)

GLASS—

Single Strength Window Glass	$ .29 per □ ft.
Double Strength Window Glass	.42 per □ ft.
Plate Glass, ¼ polished to 75	1.43 per □ ft.
¼ in. Polished Wire Plate Glass	2.35 per □ ft.
¼ in. Rgh. Wire Glass	.71 per □ ft.
¼ in. Polished Wire Plate Glass	2.00 per □ ft.
¼ in. Rgh. Wire Glass	.64 per □ ft.
⅛ in. Obscure Glass	.40 per □ ft.
7/32 in. Obscure Glass	.64 per □ ft.
⅛ in. Heat Absorbing Obscure	.58 per □ ft.
¼ in. Heat Absorbing Wire	.86 per □ ft.
Glazing of above additional $.15 to	.30 per □ ft.
Glass Blocks, set in place	3.50 per □ ft.

HEATING—

Average, $3.50 to $4.00 per sq. ft. of radiation, according to conditions.
Warm air (gravity) average $64 per register.
Forced air average $91 per register.

PACIFIC CLAY PRODUCTS
San Francisco: 605 Market St., GA 1-3970
Los Angeles, Portland, Salt Lake City

SHEET METAL (20)
Windows
DETROIT STEEL PRODUCTS COMPANY
Oakland 8: 1310 - 63rd St., OL 2-8826
San Francisco: Russ Building, DO 2-0890
MICHEL & PFEFFER IRON WORKS, INC. *(5)
SOULE STEEL COMPANY *(5)
Fire Doors
DETROIT STEEL PRODUCTS COMPANY
Skylights
DETROIT STEEL PRODUCTS COMPANY

STEEL—STRUCTURAL (21)
COLUMBIA STEEL CO.
San Francisco: Russ Bldg., SU 1-2500
Los Angeles: 2087 E. Slauson, LA 1171
Portland: 2345 N. W. Nicolai, BE 7261
Seattle: 1331 3rd Ave. Bldg., MA 1972
Salt Lake City: Walker Bank Bldg., SL 3-6733
HERRICK IRON WORKS
Oakland: 18th & Campbell Sts., GL 1-1767
JUDSON PACIFIC-MURPHY CORP.
Emeryville: 4300 Eastshore Highway, OL 3-1717
REPUBLIC STEEL CORP.
San Francisco: 116 N. Montgomery St., GA 1-0977
Los Angeles: Edison Building
Seattle: White-Henry-Stuart Building
Salt Lake City: Walker Bank Building
Denver: Continental Oil Building
KRAFTILE COMPANY *(1)
SAN JOSE STEEL COMPANY
San Jose: 195 North Thirtieth St., CO 4184

STEEL—REINFORCING (22)
REPUBLIC STEEL CORP. *(21)
HERRICK IORN WORKS *(21)
SAN JOSE STEEL CO. *(21)
COLUMBIA STEEL CO. *(21)

TILE (23)
GLADDING, McBEAN & CO. *(1)
KRAFTILE COMPANY *(1)
PACIFIC CLAY PRODUCTS
San Francisco: 605 Market St., GA 1-3970
Los Angeles, Portland, Salt Lake City

TIMBER—REINFORCING (b)
Trusses
WEYERHAEUSER SALES CO.
Tacoma, Wash.
St. Paul, Minn.
Newark, N. J.
Treated Timber
J. H. BAXTER CO.
San Francisco 4: 333 Montgomery St., DO 2-3883
Los Angeles 13: 601 West Fifth St., MI 6294

WALL TILE (24)
GLADDING, McBEAN & CO. *(1)
KRAFTILE COMPANY *(1)

WINDOWS STEEL (25)
DETROIT STEEL PRODUCTS CO. *(20)
MICHEL & PFEFFER IRON WORKS, INC.*(5)
SOULE STEEL COMPANY *(5)

GENERAL CONTRACTORS (26)
DINWIDDIE CONSTRUCTION COMPANY
San Francisco: Crocker Building, YU 6-2718
CLINTON CONSTRUCTION COMPANY
San Francisco: 923 Folsom St., SU 1-3440
MATTOCK CONSTRUCTION COMPANY
San Francisco: 604 Mission St., GA 1-5516
PARKER, STEFFENS & PEARCE
San Francisco: 135 So. Park, EX 2-6639
STOLTE, INC.
Oakland: 8451 San Leandro Blvd., TR 2-1064
SWINERTON & WALBERG COMPANY
San Francisco: 225 Bush St., GA 1-2980
Oakland: 1723 Webster St., HI 4-4322
Los Angeles, Sacramento, Denver
P. J. WALKER COMPANY
San Francisco: 391 Sutter St., YU 6-5916
Los Angeles: 3920 Whiteside St., AN 9-8567

TESTING LABORATORIES (ENGINEERS & CHEMISTS) (27)
ABBOT A. HANKS, INC.
San Francisco: 624 Sacramento St., GA 1-1697
ROBERT W. HUNT COMPANY
San Francisco: 251 Kearny St., EX 2-4634
Los Angeles: 3050 E. Slauson, JE 9131
Chicago, New York, Pittsburgh
PITTSBURGH TESTING LABORATORY
San Francisco: 651 Howard St., EX 2-1747

BUILDING TRADES WAGE (JOB SITES) NORTHERN, CENTRAL AND SOUTHERN CALIFORNIA

ATTENTION: The following are the PREVAILING hourly rates of compensation being paid and in effect by employers by agreement between employees and their union; or as recognized and determined by the U. S. Department of Labor. (Revised to Sept. 1, 1949.)

CRAFT	San Francisco	Alameda	Contra Costa	Fresno	Sacramento	Santa Clara	Solano	Stockton	Los Angeles	San Bernardino	San Diego	Santa Barbara	Kern
ASBESTOS WORKERS	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.16	$2.25	$2.25	$2.25	$2.25	$2.25*
BRICKLAYERS	3.00*	3.00	3.00	2.50	3.00	3.00	3.00	2.05*	2.625	2.625	2.625	2.625	2.625
BRICKLAYERS, HODCARRIERS	2.25	2.25	2.25	2.00	2.00	1.75	2.25	1.60*	1.75	1.75	1.75	1.75	1.75
CARPENTERS	2.16	2.16	2.175	2.175	2.175	2.175	2.175	2.175	2.20	2.20	2.20	2.20	2.20
CEMENT FINISHERS	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.28	2.28	2.28	2.28	2.28
ELECTRICIANS	2.50	2.50	2.50	2.25	2.50	2.50	2.40	2.40	2.50	2.50	2.50	2.50	2.50
ELEVATOR CONSTRUCTORS	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.25	2.25	2.25	2.25	2.25
ENGINEERS: MATERIAL HOIST	2.19	2.19	2.19	2.19	2.19	2.19	2.19	2.19	1.9875	1.9875	1.9875	1.9875	1.9875
PILE DRIVER	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.32	2.32	2.32	2.32	2.32
STRUCTURAL STEEL	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.30	2.30	2.2375	2.30	2.30
GLAZIERS	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.96
IRONWORKERS: ORNAMENTAL	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.255	2.255	2.255	2.255	2.255
REINF. RODMEN	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.28	2.28	2.28	2.28	2.28
STRUCTURAL	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.30	2.30	2.2375	2.30	2.30
LABORERS: BUILDING	1.55	1.55	1.55	1.45	1.55	1.45	1.55	1.55	1.65	1.65	1.65	1.65	1.65
CONCRETE	1.55	1.55	1.55	1.45	1.55	1.45	1.55	1.55	1.65	1.65	1.65	1.65	1.65
LATHERS	2.8125	2.8125	2.8125	2.8125	2.00*	2.50*	2.8125	2.8125	2.50	2.50	2.50	2.50	2.50
MARBLE SETTERS	2.375	2.375	2.375	2.375	2.375	2.375	2.375	2.375	2.25	2.25	2.25	2.25	2.25
MOSAIC & TERRAZZO	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.40	2.40	2.20	2.40	2.40
PAINTERS	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.15**	2.22	2.22	2.22	2.22	2.22
PILEDRIVERS	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.33	2.33	2.33	2.33	2.33
PLASTERERS	2.8125	2.50*	2.50*	2.25*	2.25*	2.50*	2.50*	2.8125	2.50	2.75	2.50	2.50	2.50
PLASTERERS, HODCARRIERS	2.50	2.25*	2.25*	1.775*	2.00*	2.00*	2.25*	2.16	2.15	2.25	2.30	2.00	2.00
PLUMBERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
ROOFERS	2.25	2.25	2.25	1.875	2.00	2.00	2.16	2.25	2.25	2.00	1.90	2.00	2.00
SHEET METAL WORKERS	2.25	2.25	2.25	2.125	2.30	2.40	2.125	2.125	2.15	2.15	2.175	2.00	2.15
SPRINKLER FITTERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.25	2.25	2.25	2.25	2.25
STEAMFITTERS	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
STONESETTERS (MASONS)	3.00	2.8125	2.8125	2.25*	2.8125	2.8125	2.8125	2.05*	1.50	1.50	1.50	2.625	1.715
TILESETTERS	2.675	2.675	2.675	2.15	2.00	2.675	2.675	2.4375	2.50	2.50	2.20	2.50	2.25

* 6 Hour Day. ** 7 Hour Day.

Prepared and compiled by:
CENTRAL CALIFORNIA CHAPTER, ASSOCIATED GENERAL CONTRACTORS OF AMERICA, with the assistance and cooperation of secretaries of General Contractors Associations and Builders Exchanges of Northern California; and the above information for southern California is furnished by the Labor Relations Department of the Southern California Chapter, ASSOCIATED GENERAL CONTRACTORS OF AMERICA.

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CONTROL OF NOISE IN BUILDINGS

(From Page 8)

noise control in buildings can be greatly simplified. Where quiet is a prime requirement, partitions should be carefully chosen from the noise-insulation standpoint rather than neglected in the hope that acoustical treatment will remedy the situation. Acoustical materials should also be picked with care, making sure that they will satisfy the requirements of the job. When all of these have been taken into account, it is absolutely essential that the good noise insulation that can be so obtained is not negated by a neglect of details such as cracks around doors and windows, or by an improperly designed ventilation system. The control of noise in buildings is essential to human comfort, and it can be obtained.

VERNE BOGET ELECTED DIRECTOR OF THE PRODUCERS' COUNCIL

Verne Boget, vice-president and sales manager of the Building Products Division of Gladding, MacBean & Company, has been unanimously elected a Director of The Producers' Council, the national organization of manufacturers of quality building materials and equipment.

Verne Boget
Director

He will represent the West Coast for a two year term.

Boget, who began his career with the Gladding, McBean Company more than twenty-nine years ago, was elected a vice-president of the firm in 1948. He has served on the Advisory Committee of the Title Council of America and is now serving as a member of the Promotion and Architectural Relations committees of the Tile Council.

ELECTED BUREAU PRESIDENT

Jack Cooper, president of the Harry Cooper Supply Company of Springfield, Missouri, has been elected president of the Plumbing and Heating Industries Bureau at the organization's annual meeting recently held in Chicago.

He succeeded George O. Toepfer of Milwaukee, Wisconsin.

SOULE' STEEL COMPANY PROMOTION

George L. Cobb, formerly district sales manager of the Soule' Steel Company for northern California and Nevada, has been appointed assistant general sales manager, according to an announcement by Edward L. Soule' president of the steel firm.

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CONSTRUCTION CONTRACTS AWARDED AND MISCELLANEOUS PERSONNEL DATA

GRAMMAR SCHOOL. Fresno, Fresno County. American Union Elementary School District, owner. 18 classrooms, administration, multi-purpose room, kindergarten, & toilet room, $430,985. ARCHITECT: Wm. Hastrup, Fresno. Frame & stucco construction. GENERAL CONTRACTOR: Harris Construction Co., Fresno.

JOHN MUIR GRAMMAR SCHOOL. Modesto, Stanislaus County. Modesto Board of Education, owner. 1 classroms, offices kindergarten & toilet room, $250,247. ARCHITECT: Swartz & Hyberg, Fresno. Frame & stucco construction. GENERAL CONTRACTOR: Harris Construction Co., Fresno.

FRANKLIN GRAMMAR SCHOOL. Modesto, Stanislaus County. Modesto Board of Education, owner. 10 classrooms, kindergarten, offices, toilet rooms, $251,564. ARCHITECT: Swartz & Hyberg, Fresno. Frame & stucco construction. GENERAL CONTRACTOR: Harris Construction Co., Fresno.

NEWSPAPER BUILDING. Richmond, Contra Costa County. Richmond Independent, owner. $126,237. ARCHITECT: Donald L. Hardison, Richmond. 1 & 2 story, 112 x 125, reinforced concrete & frame construction. GENERAL CONTRACTOR: R. F. Johnson & Son, El Cerrito.

NEW HIGH SCHOOL BUILDINGS. Walnut Creek, Contra Costa County. Acalanes Union Hight School District, owner. 14 classrooms, administration, science room, cafeteria, library, gymnasium, site work. $646,-997. ARCHITECT: Kump & Assoc., San Francisco. Structural steel frome & frame & stucco & redwood exterior. GENERAL CONTRACTOR: Hass & Rothschild, San Francisco.

COUNTY HOSPITAL BUILDING. Jackson, Amador County. County of Amador, owner. 25 beds, $395,304. ARCHITECT: Geo. C. Sellon, Sacramento. 1 story, reinforced concrete & structural Steel Construction. GENERAL CONTRACTOR: Moore & Roberts, San Francisco.

JUVENILE HALL & DEPENDENTS HOME. Santa Rosa, Sonoma County. County of Sonoma, owner. $266,200. ARCHITECT: E. Geoffrey Bangs, San Francisco. Reinforced concrete construction. GENERAL CONTRACTOR: Santa Rosa

HIGH SCHOOL ADDITION. Salinas, Monterey County; Salinas High School District, owner. Girls gymnasium room and new shower and locker building, $128,877. ARCHITECT: Chas. E. Butner, Salinas; STRUCTURAL ENGINEER, F. W. Kellberg, San Francisco, MECHANICAL ENGINEER: Clyde E. Bentley, San Francisco, frame and stucco construction. GENERAL CONTRACTOR: Harold C. Geyer, Monterey.

NEW GRAMMAR SCHOOL. Bakersfield, Kern County. Fruitvale Elementary School, owner. 6 classrooms, office, toilet room, $122,500. ARCHITECT: Ernest L. McCoy, Bakersfield, 12,600 sq. ft., reinforced concrete and frame construction, asphalt tile floor, steel sash. GENERAL CONTRACTOR: Willard K. Michael, Bakersfield.

CENTRAL VALLEY SCHOOL ADDITION. Redding, Shasta County. Union Elementary District, owner. 6 classrooms and multi-purpose room, $296,900. ARCHITECT: Gordon Stafford, Sacramento, frame and stucco construction. GENERAL CONTRACTOR: Pacific Co., Oakland.

WAREHOUSE BUILDING. San Francisco. Macy's, owner. $500,000. ARCHITECT: Ward & Bolles, San Francisco. ENGINEER: Thos. F. Chace, San Francisco. 1 story, 82,000 sq. ft., reinforced concrete and frame construction. GENERAL CONTRACTOR: Dinwiddie Construction Co., San Francisco.

FACTORY BUILDING. San Francisco. Apparel City, owner, $225,000. ARCHITECT: Ward & Bolles, San Francisco. STRUCTURAL ENGINEER: Thos. F. Chace, San Francisco, precast till-up, reinforced concrete construction. GENERAL CONTRACTOR: E. S. McKittrick Co., Oakland.

HIGH SCHOOL ADDITION. Taft, Kern County. Taft Union High School District, owner. Home economics, arts and crafts building, $324,495. ARCHITECT: Ernest L. McCoy, Bakersfield. 1 story, reinforced concrete, 3,850 sq. ft. are in each bldg., steel sash, air conditioning, two buildings will be connected by covered corridor and utility tunnel; air conditioning and insulation. GENERAL CONTRACTOR: Glen A. Phares, Bakersfield.

WAREHOUSE BUILDING ADDITION. San Francisco. Standard Brands, Inc., owner. $90,000. STRUCTURAL ENGINEER: Ellison & King, San Francisco. 2 story, 60x189, reinforced concrete construction. GENERAL CONTRACTOR: Barrett & Hilp, San Francisco.

STORE AND APARTMENT BUILDING. Menlo Park, San Mateo County. Milonas & Sons, owner. 11 stores, 20 apartments, $119,000. DRAFTSMAN: W. A. Wacker, Belmont. 2 story frame and stucco construction. GENERAL CONTRACTOR: P. O. Lind, Belmont.

GRAMMAR SCHOOL. McKinleyville, Humboldt County. McKinleyville Elementary School District, owner. 12 classrooms, offices, kindergartens, multi-purpose room, toilet room, $391,398. ARCHITECT: Ernest F. Winkler, San Francisco. Frame and stucco construction. GENERAL CONTRACTOR: A. C. Johnson & Sons, Eureka.

FACTORY BUILDING. Berkeley, Alameda County. A. H. Thompson Co., owner. $25,-000. ARCHITECT: Alben Froberg, Oakland. 1 story. GENERAL CONTRACTOR: Christensen & Lyons, Oakland.

HASTINGS COLLEGE OF THE LAW BUILDING. San Francisco. University of Calif., owner. $1,273,166. ARCHITECT: Masten & Hurd, San Francisco. STRUCTURAL ENGINEER: Huber & Knapik, San Francisco. MECHANICAL ENGINEER: G. M. Simanson, San Francisco. 5 story and basement, 90x-165, approximately 77,320 sq ft., reinforced concrete construction. Library book stacks, 2 elevators, aluminum windows and doors, terrazzo floors, linoleum floors, metal lath and plaster partitions, accoustical tile ceiling, exterior faced with precast stone and ceramic veneer, fluorescent lighting. GENERAL CONTRACTOR: Monson Bros., San Francisco.

COTTON WAREHOUSE BUILDING. Stockton, San Joaquin County. Port of Stockton, owner. ENGINEER: Ohm & Eckland, Stockton. 1 story, 200x800, wood frame and corrugated steel walls, composition roof, reinforced concrete fire walls. GENERAL CONTRACTOR: Sheperd & Green, Stockton.

SUPER MARKET BUILDING. Daly City, San Mateo County. Henry Doelger Inc., owner. $200,000. ARCHITECT: Mogens Mogenson, San Francisco. 1 story, 120x192, brick and redwood, structural steel frame, wood roof, plate glass front.

LAUNDRY ADDITION & REMODEL. San Mateo, San Mateo County. Blue-White Laundry & Cleaners, owner, $103,100. ARCHITECT: James F. McGuiness, San Francisco. Addition and remodel, frame and stucco and reinforced concrete, boiler room. GENERAL CONTRACTOR: Morris Daley, San Mateo.

CHURCH ADDITION. San Francisco. Mira Loma Community Church, owner, $113,118. ARCHITECT: Stanley F. Davis, San Francisco. 1 story, frame and stucco construction and basement. GENERAL CONTRACTOR: Joel Johnson & Son, San Francisco.

RESIDENCE. San Francisco. Hom D. Tyler, owner, $58,280. ARCHITECTS: Wurster, Bernardi & Emmons, San Francisco. 2 story, frame and stucco construction. GENERAL CONTRACTOR: C. M. Teigland Construction Co., Berkeley.

CROTHERS HALL ADDITION. Palo Alto, Santa Clara County. Stanford University, owner. 2 wings, 4 rooms, 250,000. ARCHITECTS: Eldridge T. Spencer & Wm. C. Ambrose, San Francisco. 2 story and basement, reinforced concrete construction, tile roof. GENERAL CONTRACTOR: Gagner & Martinez, San Francisco.

VETERANS MEMORIAL BUILDING. Sonoma, Sonoma County. County of Sonoma, owner. $248.996. ARCHITECT: J. Clarence Felciano, Santa Rosa. 1 story, reinforced concrete. GENERAL CONTRACTOR: Ralph Larsen & Son, San Francisco.

RESIDENCE HALL. San Francisco. Convent of the Good Shepherd, owner, $160,000. ARCHITECT: Ryan & Lee, San Francisco. 2 story, reinforced concrete and frame construction. GENERAL CONTRACTOR: Robt. McCarthy Co., San Francisco.

STORE & OFFICE BUILDING. San Francisco. Arc Electric Co., owner, $145,000. ARCHITECT: Mario J. Campi, San Francisco. 2 story, mezzanine and basement, frame and stucco and structural steel frame. GENERAL CONTRACTOR: Carrico & Gautier, San Francisco.

FRANKLIN GRAMMAR SCHOOL. Modesto, Stanislaus County. Modesto Board of Education, owner. 10 classrooms, kindergarten, offices, toilet roms, $251,564. ARCHITECT: Swartz & Hyberg, Fresno. Frame and stucco construction. GENERAL CONTRACTOR: Harris Construction Co., Fresno.

LINCOLN SCHOOL. Bakersfield, Kern County. Bakersfield Board of Education, owner. Cafeteria, $65,000. ARCHITECT: Robert N.

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Edy, Bakersfield. 1 story, frame & stucco construction, steel sash, asphalt tile floors, brick veneer. GENERAL CONTRACTOR: David Bigger, Bakersfield.

NEW TERRACE GRAMMAR SCHOOL. Delano, Kern County. Delano Union Elementary School District, owner. 6 classrooms, administration, kindergarten, kitchen, toilet room, $190,000. ARCHITECT: Wright, Metcalf & Parsons, Bakersfield. Frame & stucco construction, 18,700 sq. ft., asphalt tile floor, insulation. GENERAL CONTRACTOR: Fred S. Macomber, Los Angeles.

WAREHOUSE BUILDING. San Francisco. Colyear Motor Sales Co. $138,000. ENGINEER: Felix H. Spizer, San Francisco. 1 story, reinforced concrete & frame construction. GENERAL CONTRACTOR: Cahill Bros., San Francisco.

HOME OFFICE BULDING. Sacramento, Sacramento County. California-Western States Life Insurance Co., owner. $1,500,000. ARCHITECT: Masten & Hurd, San Francisco. 3 story & basement, 150 x 200 reinforced concrete construction, metal windows, air conditioning. GENERAL CONTRACTOR: Swinerton & Walberg, San Francisco.

GARAGE & REPAIR SHOP. Oroville, Butte County. Oroville Union High School District, owner. $46,000. ARCHITECT: Thos. Paine Dunlap, Chico. 1 story structural steel frame, corruated metal exterior. GENERAL CONTRACTOR: McDaniel Construction Co., Marysville.

NEW GYMNASIUM BUILDING. Oroville, Butte County. Oroville Union High School District, owner. $332,450. ARCHITECT: E. Geoffrey Bangs, San Francisco. Reinforced concrete construction. GENERAL CONTRACTOR: Frank C. Brunelli Co., San Francisco.

BOY'S GYMNASIUM BUILDING. Auberry, Fresno County. Sierra Joint Union High School District, owner. $333,396. ARCHITECT: Franklin & Simpson, Fresno. GENERAL CONTRACTOR: R. Pedersen & Son, Fresno.

GRAMMAR SCHOOL ADDITION. Keyes, Stanislaus County. Keyes Elementary School District, owner. 4 classrooms, $97,721. ARCHITECT: Russell G. DeLappe, Berkeley. Frame & stucco construction. GENERAL CONTRACTOR: Spears Construction Co., Modesto.

OFFICE & WAREHOUSE. San Jose, Santa Clara County. R. D. Brennan, San Jose. $30,000. ARCHITECT: Higgins & Root, San Jose. 1 story frame construction, redwood exterior.

DRIVE-IN BRANCH BANK BUILDING. San Jose, Santa Clara County. First National Bank Building, owner. $40,000. ARCHITECT: Higgins & Root, San Jose. 1 story, 2500 sq. ft., reinforced concrete & Calstone block & Frame construction. GENERAL CONTRACTOR: Oscar W. Meyer, San Jose.

OFFICE BUILDING REMODELED. San Francisco. Calif. Packing Corp., San Francisco. $100,000. ARCHITECT: Albert F. Roller, San Francisco. Interior & exterior remodel. GENERAL CONTRACTOR: Swinerton & Walberg, San Francisco.

RESIDENCE. San Francisco. John I. Walter, owner. 12 rooms & 6 baths, $43,555. ARCHITECT: Wurster, Bernardi, & Emmons, San Francisco. 1 & 3 story, frame construction, redwood exterior. GENERAL CONTRACTOR: A. W. Baum, San Francisco.

POST OFFICE & STORE BUILDING. Ceres, Stanislaus County. Jack Crouch, owner. $30,000. ARCHITECT: G. N. Hillburn, Modesto. 1 story 50 x 80, concrete block & frame construction. GENERAL CONTRACTOR: Hans Pearson, Modesto.

4 DORMITORY BUILDINGS. San Francisco. Convent of the Good Shepherd, owner. $40,000 each. ARCHITECT: Ryan & Lee, San Francisco. 2 story, reinforced concrete & frame construction. GENERAL CONTRACTOR: Robt. McCarthy Co., San Francisco.

DEPARTMENT STORE ADDITION & REMODEL. San Mateo, San Mateo County. Loewe & Zwierlein, owner. $138,531. ARCHITECT: Hertzka & Knowles, San Francisco. Concrete block & brick frame construction, new store front & remodel interior. GENERAL CONTRACTOR: Arthur Bros., San Mateo.

GRAMMAR SCHOOL ADDITION. Santa Cruz, Santa Cruz County. Live Oak Elementary School District, owner. 8 classrooms, kindergarten, toilet rooms, $179,471. ARCHITECT: Lynn R. Duckering, Santa Cruz. Frame & stucco construction, some structural steel, steel sash, radiant heating, asbestos shingle roofing. GENERAL CONTRACTOR: K. J. McFranahan, Santa Cruz.

APARTMENT BUILDING. San Francisco. M. Desiano, owner. 28 apartments, $160,000. ARCHITECT: H. D. Baumann, San Francisco. 3 story, frame & stucco construction, 1 auto passenger elevator.

MENLO PARK PLAZA SHOPS. Menlo Park, San Mateo County. ARCHITECT: Robt. Liles, San Francisco. 1 story & mezzanine, 200 ft. front, reinforced concrete structural steel, wood roof trusses, plate glass front. GENERAL CONTRACTOR: Wm. Horstmeyer Co., San Francisco.

MEMORIAL HOSPITAL. Salinas, Monterey County. Salinas Valley Memorial Hospital District, owner. 139 beds, $2,305,600. ARCHITECT: Robt. Stanton, Carmel. 5 story, basement, reinforced concrete & structural steel construction, steel or aluminum sash, 3 elevators, asphalt tile terrazzo & linoleum floors. GENERAL CONTRACTOR: Parker, Steffens & Pearce, San Francisco.

HOLLYWOOD PARK GRAMMAR SCHOOL ADDITION. Sacramento, Sacramento County. Sutterville Heights Elementary School District, owner. 17 classrooms, 2 kindergartens, all-purpose shop & homemaking unit, $579,601. ARCHITECT: Koblik & Fisher, Sacramento. Frame & stucco construction. GENERAL CONTRACTOR: Chas. F. Unger, Sacramento.

WAR MEMORIAL BUILDING. Daly City, San Mateo County. City of Daly City, owner. Combination auditorium, gymnasium, meeting room, $298,623. ARCHITECT: Mario J. Ciampi, San Francisco. GENERAL CONTRACTOR: Ralph Larsen & Son, San Francisco.

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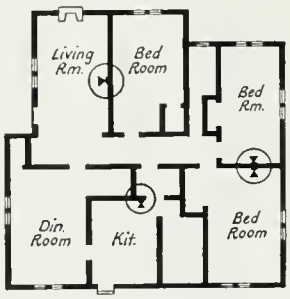
Blueprint for modern homes— Extra outlets, concealed wiring



Signs of a thoughtful builder are the convenient telephone outlets included in his blueprint. Here the customer may add new extensions in the kitchen and bedrooms later on as they are needed... inexpensively. These outlets also may be used for portable telephones.

Beautiful walls won't be marred by exposed wiring if built-in conduit is planned in advance. Low-cost, concealed wiring is easy to install, means extra customer appreciation. *For free help in planning, call your local Pacific Telephone office and ask for "Architects and Builders Service."*

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IN THE NEWS

NEW INTERIOR PAINT RESTRICTS FLAME SPREAD

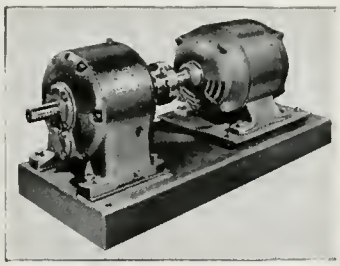
A new oil base paint that protects against flame spread over room surfaces, has just been announced by the Western Asbestos Co. of San Francisco, with branch offices throughout northern California.

Manufactured by the Celotex Corporation the new product is known as Dio-Tex and is an intumescent oil base paint that expands instantly into a thick char blanket when exposed to fire. As it swells, it forms a deep layer of insulation between the underlying material and the heat of the flame. Surfaces painted with Dio-Tex pass fire tests with a slow-burning clasification under Federal Specification SS-A-118a and meet the new requirement of the State Fire Marshal's Code.

Soft flat finish, and colors in variety of tints and shades are available.

PACKAGED POWER UNIT ANNOUNCED

A new packaged power unit called the Link-Belt Motogear has been announced by the Link-Belt Company of Chicago, Ill.



Consisting of a compact, enclosed helical gear drive with separate standard motor, flexibly coupled and mounted on one welded steel base plate. A movable plate between motor feet and welded base plate provides for convenient adjustment.

Available in a variety of sizes; double or triple reductions; wide range of ratios and horse power.

ARCHITECT SELECTED

The Board of Supervisors of Contra Costa County has selected Architect Donald L. Hardison of Richmond to design a new county office building for the Civic Center at Richmond.

Cost of the project will approximate $800,000.

SCHOOL BID REJECTED

Officials of the Bellevue Unified School District near Santa Rosa (Sonoma county) have rejected a bid of $429,580 for the construction of a new Grammar School.

Of frame and stucco construction, the building was designed for 15 classrooms, administration, all purpose room, kitchen, and toilet rooms.

C. A. Caulkins of Santa Rosa is the architect.

SCHOOL BONDS

Voters of the Novato Union Elementary School District in Marin County have approved a bond issue of $55,000 for the construction of a new Grammar School building. Approved also is a State Aid Loan in the amount of $746,000 for the same project.

John Lyon Reid of San Francisco is the architect.

NAMED VICE PRESIDENT FOR 1951 ASSOCIATED GENERAL CONTRACTORS

Arthur S. Horner, president of the A. S. Horner Construction Company of Denver, Colorado, has been nominated vice president of The Associated General Contractors of America for 1951.

Horner is a civil engineer graduate of the University of Colorado and after various activities in the construction industry established his own firm in 1927. He is a past president of the Colorado Contractors Association, and chairman of the association's Heavy Construction and Railroad Contractors Division.

ARCHITECT MOVES

The architectural offices of J. S. Gould, A.I.A., were recently moved into new quarters at 407 Sansome Street, San Francisco. The telephone number is EXbrook 2-6362.

CALIFORNIA STATE AID LOANS RECENTLY MADE

Applications for California State Aid Loans for the construction of school facilities have been recently received and approved according to a Sacramento report.

County and school district projects included: Alameda County—La Vista Elementary School District, $279,289 ($1,726,629); Castro Valley Elementary School District, $13,519 ($1,672,141) Independent Elementary School District, $8,040 ($63,225). Contra Costa County—Walnut Creek Elementary School District, $69,908 ($687,272). San Mateo County—Ravenswood Elementary School District, $232,558 ($2,429,870); San Bruno Park Elementary School District, $149,797 ($853,937).

Sonoma County—Cloverdale Union Elementary School District, $46,422 ($196,223). Tulare County—Goshen Elementary School District, $28,513 ($322,419). Fresno County—Easterby Elementary School District, $19,876 ($499,138). Madera County—Fairmead Elementary School District, $21,564 ($163,525).

ARCHITECT CHOSEN

The Housing Authority of Contra Costa County has selected architects Fred L. Confer and R. G. Willis of Oakland to draft plans for the construction of a 176-unit Low Income Housing Project at Pittsburg.

EXPOSITION FEATURES NEWEST PRODUCTS

A wide variety of new products will be displayed at the Tenth International Heating and Ventilating Exposition scheduled for January 22-26 in the Commercial Museum at Philadelphia, Pa.

The Exposition is again being held under auspices of the American Society of Heating and Ventilating Engineers in conjunction with their 57th annual meeting which will be held at the same time.

NEW MOTEL

A new sixty-three room Motel is being built in Oakland by August Maquet of the Park Lane Motel on MacArthur Blvd.

Cost of the project is estimated at $120,000.

DISCUSSES A LOT OF BUILDING PROBLEMS

Milton J. Brock, Sr., former president of the National Association of Home Builders, spoke before the Los Angeles Chapter of the Society of Residential Appraisers recently on the subject "Problems Confronting Builders and Developers Under Present Government Regulations." Brock is also a former president of the Building Contractors Association of California and a member of the Slum Clearance and Redevelopment Agency of the City of Los Angeles.

The meeting was presided over by Mason T. Noice, chapter president.

NEW SOLID BRASS CABINET DOOR AND DRAWER PULLS

Two new solid brass cabinet door and drawer pulls have been added to the cabinet hardware line of The Stanley Works, New Britain, Conn. according to a recent company announcement.

• Unique in design and styling the pulls may be applied vertically or horizontally and are suitable for any room in the house. Available in two sizes: 4⅝ in., and 3¼ in. and ¾" and ⅞" in thickness; all standard hardware finishes.

CLEVELAND ALL READY FOR PLANT MAINTENANCE SHOW

The defense crisis will highlight a panel of 45 speakers representing all sections of the nation, when the Plant Maintenance Show and Conference is held in Cleveland on January 15-18.

Both the conference and the show will reflect the growing concern of industrialists in the staggering waste of maintenance costs.

BIDS REJECTED

The Kings County (California) Board of Supervisors rejected a recent bid for the construction of an addition to the Legion Building and for remodel to the present building.

Swartz & Hyberg of Fresno are the architects.

"NEW STANDARD" EXTENSION DRAWER IS NOW AVAILABLE

A new device known as the "New Standard" Extension Drawer Support has been announced by The Extension Drawer Support Company, 3727 Broadway Place, Los Angeles.

It consists of four right-angle pieces of metal, two to each drawer side; when fitted into place permits drawer to slide without slightest tendency to bind; various sizes to support drawers 7½ to 33 in. in depth.

This new product is of special interest in the manufacture of boats, cabinets, furni-

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ture, millwork, store fixtures, trailers, and other wooden drawer fabrication.

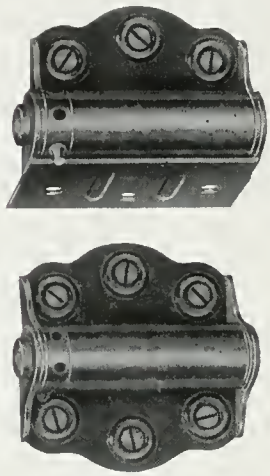
ARCHITECT SELECTED

Architects Wm. H. Rowe of San Francisco and Jerome Kasavan of Salinas have been commissioned by the Moss Landing Union Elementary School District (Monterey County) to draft plans for the construction of a new Grammar School building at Moss Landing.

Of frame and stucco construction the building will cost approximately $386,000. Bonds have been approved for the project.

NEW SCREEN DOOR HINGES

Two new adjustable tension screen door hinges have been announced by The Stanley Works of New Britain, Conn.



Hinges feature a tension spring easily adjusted to regulate speed of door closing; spring is enclosed in barrel of hinge for protection and attractive appearance. Made of wrought steel; designed for half-surface or full surface applications.

REJECT BIDS

The Division of Architecture, State of California, has rejected a bid of $259,500 for the construction of a new exhibit building and grandstand at the 25th District Agricultural Association fairgrounds at Napa.

NEW HOSPITAL

The Santa Cruz county Board of Supervisors selected the architectural firm of Easterly-Ellenwood & Easterly of Watsonville, to design a new 40 bed Tuberculosis Hospital to be built in Santa Cruz.

Cost of the project is estimated at $400,000.

LOAN APPROVED

A federal loan of $958,000 has been approved for the construction of a 100-unit Low Income Housing Project in Eureka (California).

Construction is under the authority of the Housing Authority of Eureka.

BONDS VOTED

A local bond issue of $22,173 has been approved by the Terra Bella grammar school district for the construction of a new 8-room, office and toilet Grammar School. A State Aid Loan of $186,000 has also been approved.

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